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PART 3

ACTIVITIES OF THE LUFTWAFFE

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INTRODUCTION

The following part contains a presentation of the activities of the Luftwaffe in the Polish Campaign, from 6 September 1939 to the conclusion of hostilities. In contrast with the first two parts of the present work, the material offered in Part 3 is not arranged by days of combat but by operational phases, zones, and missions. The tactical principles and experiences involved became clearly evident within the first few days of warfare and have been precisely evaluated and formulated in the first two parts. The arrangement chosen for the present part evolved automatically from the fact that in general only little documentary evidence is available covering the period after 5 September, and from the fact that what documentary evidence is available appears incomplete and unreliable so far as large parts of the period treated are concerned.

For these reasons it also will be necessary to base the following examination of the activities of the Luftwaffe on the known operations of the Army. The missions for the Luftwaffe developed during the continued course of the campaign from development in the ground operations. These missions can be divided into three separate phases:

(1) A direct shift in emphasis to air missions in direct support of the Army, particularly after conclusion of the border and breakthrough battles with the Radom and Kutno battles of envelopment;

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(2) The concurrent mission of rendering indirect support to the ground forces in the depth of the zones of operations, particularly in the line of advance of the enveloping flank forces in the northeast and southeast. This mission was accomplished in the form of air attacks against Polish march and transport movements far behind the hostile front, through operations designed to

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protect the German troops involved in decisive battles against surprise attacks staged from the deep Polish rear, and through action to seal off the Polish-Rumanian border;

(3) The increasing use of air power in what might be called long-range artillery missions against the fortresses of Warsaw and Modlin.

The above circumstances in themselves prescribe, although only in broad outline, the scope of the main topics to be dealt with.

The measures taken by the command and the combat activities of the field units must be considered within these limits.

CHAPTER 1

ARMY OPERATIONS AND THE ORGANIZATION OF THE LUFTWAFFE
AS THE BASIS FOR FURTHER DEVELOPMENTS

During the first six days of the campaign Army operations had exercised a determining influence on air activities to a progressively growing extent. This had steadily pushed thoughts of strategic air warfare more and more into the background. In contrast, the concept of air support for the ground forces had become steadily more prominent until it became the factor determining the entire mission assignment of the Luftwaffe. In the examination of the events of the Polish Campaign which now follows, Army operations therefore to a large extent will provide the pattern for the operations of the Luftwaffe. From this stage on developments in the situation on the ground were almost the only factor determining the nature and scope of Luftwaffe operations.

I. GROUND OPERATIONS UP TO THE FINAL BATTLE FOR THE FORTRESSES
OF WARSAW AND MODLIN.

The border and breakthrough battles came to an end on the sixth day of the Polish Campaign, on 6 September; fronts had become fluid, and the Polish armies were in full retreat, pursued by the German forces. It was the beginning of the annihilation of the Polish Armies. The operations during this phase are characterized by two

developments of decisive importance for the activities of the Luftwaffe. After the Tenth Army had captured the Polish towns of Tomaszow and Kielce on 6 September, its forces separated into two groups each advancing in a different direction:¹ The right group advanced through Kielce northeast and east and crossed the Vistula River; the left group sent forward a force composed primarily of mobile units in a drive through Tomaszow on Warsaw.

Whereas the right group became involved in heavy fighting in the Radom area, where strong Polish forces were enveloped and destroyed or captured in battles lasting until 12 September, the left group failed to reach its objective, Warsaw, by the prescribed deadline. The ground situation in general is explained by situation maps.² and ³ It was in this situation that the unexpected development occurred which was to cause a serious delay in the planned course of operations: the Polish attempt to regain freedom of action west of Warsaw.

The northern flank of the German advance army came under a serious and one might even say mortal threat by the Polish forces flooding back in the general direction of Warsaw from Western Poland. At the same time the large concentration of new Polish forces in the Lodz area, of which there had been indications for some days past, suddenly materialized. The entire German Eighth Army was forced to go over from the offensive to purely defensive action. The

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German Tenth Army found itself compelled to halt its drive on Warsaw: the Battle of Kutno had begun. This battle lasted from 7 to

1. Outline Map in Map Appendix, Appendix 52.

2. Ibid

3. Ibid, Appendix 53.

19 September, and the German victory with which it ended was due in a decisive measure to Luftwaffe participation. It was only after the successful conclusion of this battle, which was the severest battle of annihilation fought west of the Vistula River in the Polish campaign, that the Luftwaffe was able to turn its attention to its next major mission, that of acting as long range artillery to subdue the two fortresses of Warsaw and Modlin.

While these combat operations were still in progress west of the Vistula River, with action finally crystallizing around Warsaw and Modlin, the two prongs of the wide-sweeping envelopment movement east of the river were advancing from north and south. In the north the German Third Army had overcome the heavily defended and fortified Narev and Bug River lines in severe battle and around 13 September had sealed off all approaches to Warsaw from the east,⁴ thus preventing the escape of Polish forces to this area from west of the Vistula. Simultaneously, the German Fourth Army, on the extreme German eastern flank, was advancing from the north in a southward drive through Brest-Litovsk to join forces with the Fourteenth German Army, advancing from the south. The juncture was to take place in the rear of the entire Polish line on the banks of the Upper Bug River. The completion of this movement closed the second envelopment of the Polish forces.

4. OKW report, 14 Sep 39; Karlsruhe Document Collection.

II. CHANGES IN THE COMMAND ORGANIZATION AND OPERATIONAL ZONES OF THE AIR FLEETS

The main feature of the directives received from the Commander in Chief of the Luftwaffe on 6 September⁵ was the instructions to regroup forces for operations in direct support of the Army. This brought to light two facts which were to have a bearing on everything which took place in the coming phases of combat: (1) the shift of emphasis in air operations to the Fourth Air Fleet, and (2) the rearrangement of operational areas by the establishment of a new boundary line between the two air fleets.⁶ The most noticeable change involved in the shift of emphasis to the Fourth Air Fleet was the transfer of First Air Division Headquarters, with its 1st Bomber Wing, to the Fourth Air Fleet, which had already received reinforcements in the form of the 26th Bomber Wing and of two dive-bomber groups from the command area of the 1st Air Division. At the same time the forces remaining with the First Air Fleet, namely, the 27th Bomber Wing, had been transferred to Eastern Prussia, since there appeared to be no further mission for the First Air Fleet to perform in the areas on either side of the Vistula River west of Warsaw. Such was the situation on 7 September.

The circumstances described above naturally entailed a change in the command organization of the First Air Fleet. The Commanding

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5. Cf. Part 2, Chapter 7.

6. See map of boundary lines on 6 Sep in Appendix Volume, Appendix 38.

General was still directing the operations of the few units left under his control--what was left of the former Air Command Eastern Prussia--from his original command post, far distant from the forces he was controlling. Owing to the long distances involved, his command post had become almost unnecessary. In size and mission the staff was by this time only equivalent to an air division. In order at least to insure proper tactical control it was essential to establish by order a new command organization. This was done by two measures: (1) transfer of the command post to Eastern Prussia, and (2) establishment of two new headquarters. A newly established Command West (Gruppe West) remained under the command of the current Commanding General in Eastern Prussia, General Wimmer; a newly established Command East (Gruppe East) was placed under General Foerster, hitherto in command of the Luftwaffe Training Division. Lacking documentary evidence it can be assumed here that the air fleet commander also moved into his new headquarters in Koenigsberg by 10 September at the latest. The dividing line between the two new commands was established on the basis of geographical practicability. Presently available records also do not reveal details on the allocation of forces between the two new commands. However, it can be assumed with a large degree of certainty that General Foerster retained the units hitherto under his control, while the rest of the forces in the area, reinforced by the 27th Bomber Wing were con

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consolidated under General Wimmer.

The organization of the First Air Fleet on 10 September thus
was as follows:

Command West

3d Bomber Wing, controlling 2 groups
27th Bomber Wing, controlling 2 groups
1st Group, 1st Dive-Bomber Wing,
making a total of 5 groups;

Command East

Luftwaffe Training Wing, controlling 2 bomber and 1 twin-engine fighter groups;

2d Bomber Wing, controlling 2 groups;

3d Group, 27th Bomber Wing;

making a total of 6 groups.

The First Air Fleet at this juncture thus had available at least 9 bomber groups, 1 dive-bomber group, and 1 twin-engine fighter group. The disposition of other dive-bomber groups (excluding the 15th) of the 1st Air Division remains unknown.

III. REVIEW OF DISPOSITION AND TRANSFER OF FORCES.

The following picture materializes by 12 September:

First Air Fleet

Headquarters controlled:

Air Command East

Air Command West.

Units controlled:

1st Luftwaffe Tng Div:

2 groups(bomber),

1 " (dive-bomber);

2d Bomber Wing: 2 groups;

3d Bomber Wing: 2 " ;

27th " " : 3 " ;

1st Gp, 1st Dive-Bomber Wing

Fourth Air Fleet

Headquarters controlled:

1st Air Division

2d Air Division

Air Command for Special Purpose

Units controlled:

1st Bomber Wing: 2 groups;

4th " " : 3 " ;

26th " " : 2 " ;

55th " " : 2 " ;

76th " " : 2 " ;

77th " " : 3 " ; ;

plus 7 dive-bomber, 1 ground-attack, 2 twin-engine fighter groups.

This made a total of 11 attack type groups under the First Air Fleet, and 24 attack type groups under the Fourth Air Fleet.

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Unit Transfers in the 5-12 September Period.First Air FleetFourth Air Fleet

- | | | |
|------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------|
| Sep 5. 27th Bomber Wing
to Air Command,
Eastern Prussia | | |
| 6. 26th Dive-Bomber Wing (1st Gp, 53d
2d Gp 26th Wing) | to | 2d Air Division (Tactical Air Base
Neudorf/Oppeln) |
| 1 dive-bomber group
from 1st Air Div | to | Special Purposes Air Command |
| 7. HQ, 1st Air Div | to | Fourth Air Fleet (Comd Post at
Breslau) |
| 1st Bomber Wing
(1 Gp, plus 1st Gp
from 152d Wing) | to | 2d Air Division |
| 8. 1 dive-bomber group
from 1st Air Div | to | Special Purposes Air Command |
| 9. | | 77th Bomber Wing (minus 1st Gp)
from 2d Air Div to Special Pur-
poses Air Command |
| 11. 1st Gp, 1st Dive-
Bomber Wing | to | Special Purposes Air Command |
| 12. 1st Luftwaffe Tng
Wing (minus 1st Gp)
Zone of Interior | to | 26th Bomber Wing
Zone of Interior |

CHAPTER 2

IXX THE LUFTWAFFE HIGH COMMAND

Directives, Plans, Intelligence Estimates⁸
6-13 September

The German command realized in time that Polish forces were arriving and assembling in the general area of Lodz, so that a threat to the north flank of the German Tenth Army (main attack), was developing. It seems pointless in retrospect to draw conclusions concerning the current estimates of the situation from the directives and orders of the Commander in Chief of the Luftwaffe issued during that period, or to attempt to reconstruct his operational plans. It seems more important to view events in the light of actual circumstances in the 6-13 September period. In this effort it is advisable to organize our subject matter according to areas of main effort, which had already developed at the time. This development of areas of main effort changed nothing in the geographical subdivision in command zones of the two army groups: Army Groups North and South, or the corresponding operational zones of the First and Fourth Air Fleets.

The areas of main effort mentioned above may be designated as the Center, the North, and the South. Apart from minor and unimportant overlapping sections, the Center and South

⁸ Directives and Warning Orders by the Commander in Chief of the Luftwaffe from 6-13 Sep, see Appendix 50.

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corresponded roughly to the operational zone of Army Group South and thereby to that of the Fourth Air Fleet, while the operational zone of Army Group North, and thus of the First Air Fleet, coincided with the area of main effort North.

The following circumstances evolved in the three areas of main effort:

(1) Center. This area included the Tenth Army zone of operations and the zone in which the Eighth Army, which only entered the scene during the battle at Kutmo, was to operate. The Luftwaffe forces employed here were controlled by the Special Purposes Air Command and the 1st Air Division. Operations on the ground had revealed clearly that air support was required in concentration by the Tenth Army, whose primary operational objective was Warsaw. In its drive, the Tenth Army had split its forces, which were advancing in different directions. During the operations emphasis in air support had to be shifted in a steadily increasing measure to the right flank force, while obviously little interest was shown in the left flank. The reason for this was that the units of the Special Purposes Air Command were heavily committed in the Battle of Radom, which lasted until 12 September.

The initial main effort in the direction of Warsaw was treated with even less urgency than before, and, in fact was

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was even abandoned temporarily. The battle at the Bzura River, at Kutno, had resulted in a shift of emphasis to the left sector of the area and at the same time had made it necessary to commit all available Army and Luftwaffe forces to master the extremely critical situation. Only small elements of the Luftwaffe remained available for commitment in the former areas of main effort on both sides of the Vistula River at Deblin and against the Polish forces east of the river around Lublin.

(2) South. Throughout the period the long-range bomber units of the 2d Air Division supported the German Fourteenth Army in its successful drive far into Galicia. It was assumed that the defeated Polish armies would fall back on south Poland before the advancing German Fourteenth and Tenth Armies, and that a new group of Polish forces would be formed in Galicia. For these reasons emphasis for German long-range bomber wings shifted steadily deeper into the operational areas around Lvov-Stryj. Emphasis on operations to facilitate the advance of the Fourteenth Army increased steadily, and the Army requested repeatedly that the air units should displace forward to air bases farther in the south. The transfer of a bomber wing to Slovakia and plans for the commitment of the 7th Air Division at Jaroslavl stressed the clearly defined intention to give the right flank really effective air support and accelerate its advance.

(3) North. This area included the German Third Army, advancing from Eastern Prussia, and at an early stage also the mobile elements of the Fourth Army--which had been moved to Eastern Prussia in the meanwhile, in their movements east of the Vistula River aiming at a double envelopment of the entire Polish front. The area thus also included the First Air Fleet, which had the following primary

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missions of (1) direct support for the Third Army in battle for the Narev River and later the Bug River lines and in movements to envelop Warsaw from the east; (2) rail interdiction east of the Vistula River in continuous missions to prevent the eastward and southeastward movement of Polish troops through Warsaw, which city was also to be bombed for the same purpose; (3) integrated action with the Tenth Army and the Fourth Air Fleet against the Polish forces which had withdrawn across the Vistula River southeast of Warsaw in front of the German Tenth Army; and (4) reconnaissance and patrol activities to prevent the movement of new Polish forces from east to the Vistula front.

Apart from instructions to provide direct support for the Third and Fourth Armies in order to facilitate their advance into the deep eastern flank and rear of the Polish forces, the First Air Fleet was assigned a primarily defensive mission. All other action by the First Air Fleet was integrated with the missions of the Fourth Air Fleet and designed to support the efforts of that air fleet.

Once again strategic air reconnaissance gained in importance its primary purpose being to secure the open eastern flank of the entire operation. However, just as was the case with the Fourth Air Fleet, the suitable units available for this mission were weakened continuously through transfers to the western theater.

CHAPTER 3

LUFTWAFFE PARTICIPATION IN THE BATTLES OF
ENVELOPMENT FOUGHT IN THE CENTER

While the First and Fourth Air Fleets were committed on the two extreme flanks supporting the German drive into Polish territory to envelop the entire operational area--after which the forces of the two air fleets were to be employed in strategic missions--two large battles of envelopment developed in the center which tied down strong Luftwaffe elements in tactical missions for a considerable time. Prior to and during the initial phases of these battles, the air units continued to operate in the far Polish rear against Polish transportation and march movements, but emphasis shifted gradually to direct support for the army on the field of battle. Initially, in the battle at Radom, only the tactical support units of the Special Purposes Air Command were committed, but later, in the battle at Kutno, long-range bomber units from both air fleets also had to be committed to participate in the battle on the ground. The opening phases of the two battles coincided in time, but after the battle at Radom had come to an end all air forces were concentrated for action in the Kutno area.

I. THE BATTLE AT RADOM; 8-12 SEPTEMBER.

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While the right prong of the German Tenth Army was approaching the Vistula in the area of Deblin, it became involved in the Radom battle of encirclement. Most of the units of the Special Purposes Air Command were engaged in this battle, in which strong Polish forces attempted to escape across the Vistula River, were intercepted, and to a very large extent annihilated or captured.

As far back as on 6 September heavy attacks had been flown against the Polish forces endeavoring to hold their positions between the diverging prongs of the Tenth Army. It was actually due to these air attacks alone that the Polish forces here were separated into two groups at Lodz and Radom.

On 7 September the units of the Special Purposes Air Command commenced systematic attacks to annihilate the Polish forces in the Radom-Deblin area, which were endeavoring to escape across the Vistula River. The attacks were directed against rail depots and routes, motor vehicle columns, and other targets, particularly in the close vicinity of Radom. However, really worthwhile targets were hard to find, since air reconnaissance had reported no sizable Polish march movements but only smaller columns of troops and vehicles. Simultaneously, the command's ground-attack group continued to support the German armored units spearheading the advance of the Tenth Army's left prong driving on Tomashov.

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B By 8 September, the day on which the actual battle began, the situation on the ground had been clarified so far that it was possible to establish that massed Polish troops were present in the area around Radom. After the initial and preparatory action by air units during the preceding days, the units of the Special Purposes Air Command now were committed systematically to support operations by the ground forces designed to prevent the escape of Polish troops across the Vistula River. Missions were flown to the utmost limit which ranges and the supply situation permitted. The supply situation had become particularly critical during the past few days because a considerable part of the attack air forces were in process of transferring to near front airfields. This had become necessary to permit full exploitation of aircraft penetration ranges. The air attacks were directed against the roads in the Radom and Prylpyk area, against moving columns on the Radom to Zwolen road, and against the Vistula River bridges. The ground-attack group has displaced forward in the meantime and, as the only air unit, had received definite instructions to support the left flank of the German Tenth Army advancing on Warsaw but at the same time to attack all worthwhile targets in the areas between Lodz and the Vistula River. This group was thus relatively independent in its action and could pick its own targets.

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On 9 September activities were restricted largely to displacement by the tactical support units to airfields in the Radom area, a movement which was carried out in spite of increasing supply difficulties. On the forenoon of the first day of the battle the bulk of the bomber forces attacked the exits from Warsaw-Praga and the artillery positions farther south. This represented a sudden shift of emphasis from the right flank of the Tenth Army in the Radom area to the army's left flank. The reason for this shift of emphasis was that Polish artillery forces of all calibers in position in the Warsaw districts east of the Vistula River were holding the German forces engaged in fierce fighting in the southwestern districts of the city under heavy fire.

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On the afternoon of 9 September, in contrast, all air units were concentrated in attacks around Ilza, south of Radom, where the Polish forces had reorganized suddenly and were offering bitter resistance in determined efforts to break out of the envelopment which was clearly developing and escape in the direction of the Vistula River. The situation on the ground had become exceedingly critical during certain periods in this area. From now on, however the German air units attacked in continuous successive waves and broke up the Polish troop concentrations in a hail of light caliber bombs, following which all bomber units attacked the same targets with weapons fire. The effects of these massed air attacks were devastating and the utter confusion into which they threw the Polish troops completely broke Polish resistance. As soon as this happened the German tank forces advanced irresistably, guided by signal shots fired by the air units. In this way the German 29th Motorized Infantry Division succeeded in establishing a bridgehead in the Deblin area on the same day after reaching the Vistula River east of Ilza. The Luftwaffe had blazed the way for this division's advance.

The flexibility of command displayed on this day of battle was noteworthy. In spite of all difficulties brought about by transfer movements and supply shortages, the command had succeeded

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in rendering effective support to both attacking groups of the Tenth Army.

On 10 September the overall situation around Ilza remained unclear. It seemed that the Polish troops there were enveloped and were making repeated attempts to break out. Continued air support for the German troops in the area seemed impossible because of the inability of air pilots to differentiate between the German and Polish positions in the confusing terrain. The bulk of the forces of the Special Purposes Air Command were therefore directed to resume their attacks against the Polish artillery around Warsaw-Praga.

Apparently, no missions were flown by units of the tactical air command on 11 September. On the ground the German forces had tightened the envelopment around the Polish forces at Radom, but had not been able to eliminate them as yet. The entire Ilza-Konskie-Radom region was alive with Polish troops, some of them trying to fight their way through to Warsaw, others battling eastward in efforts to reach the Vistula River. This resulted in extremely grave situations around the command post and airfields of the Special Purposes Air Command. The 3d Battalion of the 1st Paratrooper Regiment, which had been flown in meanwhile, and the 1st Battalion of the 23d Antiaircraft Artillery Regiment did their best in this situation to protect these targets, since no

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army troops could be expected for the purpose, and participated in the battles to destroy the Polish forces. The two dive-bomber wings also were moved forward to airfields around Radom , but were unable to participate in action on this day. The 77th Bomber Wing was committed to attack Polish troop movements east of Warsaw and railroad targets around Siedlce.

The Battle of Radom came to an end on 12 September. Right flank forces of the Tenth Army proceeded to mop up the area west of the Vistula River without need for air support by units of the Special Purposes Air Command; On the following days, however, the command was called upon repeatedly to render air support with large forces in the mop-up operations. These corollary activities continued until 15 September.

The combat activities around Radom just described were necessary for a crossing to the east banks of the Vistula east of Radom. From this point on, however, and in the pursuit operations on the ground which followed east of the river, the mission of air support was taken over by the long range bomber units of the two air fleets in a steadily increasing measure. Once a clearly defined area of main effort for the decisive battle had developed west of Warsaw, these pursuit operations became of less significance in the overall picture.

II. THE BATTLE AT KUTNO--7-19 September.⁹

Similarly to the Special Purposes Air Command, which was close to the scene of action, the command of the First Air Fleet, farther north, at an early stage recognized the tactical significance of the Polish regroupment and had sensed the approach of the crisis in ground operations around Lodz, and, on its own initiative, had committed its air units in this area. While the battle at Radom was still in progress the attack units of the First Air Fleet time and again flew missions against Polish mass movements by rail and road north of Lodz and west of Warsaw. They had thus succeeded in striking the new Polish assembly and the concentration

9. The battle was commonly referred to by the name in the Luftwaffe. In the "amtlichen Schlacht- und Gefechtsbezeichnungen der Heeresgruppe Sued" (Karlsruhe Document Collection), the battle is referred to as Die Schlacht and der Bzura.

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of Polish remnants for an eastward breakthrough a telling glow.

From the confusion of the overall situation at this stage, the following indisputable picture evolves: Strong forces from both air fleets participated in the large-area defensive and destructive battle of Kutno, without a unified command developing from these circumstances. For this reason no uniform description of the battles was prepared by the Luftwaffe. Unfortunately, the following reconstruction of Luftwaffe operations has to be based primarily on after-action reports by the Special Purposes Command. The resultant one-sided presentation should not be allowed to obscure the fact, however, that large elements of the entire air forces committed in the east at the time participated with decisive effect in the ground operations throughout the entire thirteen days which the battle lasted.

The Sequence of Events:

5 September. The situation at Lodz was clarified initially by the evening report of the First Air Fleet. Basing its action on the various reports received from air units, the air fleet on the same day had committed strong forces against the new Polish assembly. Only weak forces of the Fourth Air Fleet were committed against targets in the same area.

5 September. Pursuant to Directive # 5 for 6 September, the Special ~~Barpases~~ Command on that day received orders from the Fourth Air Fleet to support the XI Corps in its drive on Brzeczyn-Skierniowice, after the 1st Panzer Division had captured Piotrkow on the evening before. The ground-attack group supported the German panzer spearheads while dive-bomber groups delivered annihilating blows against assumed Polish headquarters east of Lodz. According to directives, the First Air Fleet supported the advance by the German Third Army. The newly established boundary line had become effective on this day.¹²

7 September. Operations by units of the Special Purposes Command were oriented farther east, towards the Vistula River. Nevertheless, the units of the command while displacing to near front airfields were so regrouped even at this stage that they could operate either eastward or northward. This placed them more or less squarely between the two directions of attack of the Tenth Army. On this day of the battle only the ground-attack group attacked northward, supporting the panzer spearheads of the left flank as on the previous day. The mission of the First Air Fleet remained unchanged and on this day the air fleet, pursuant to orders transferred its 1st Air Division to the Fourth Air Fleet.

11. Appendix 50.

12. Appendix 38.

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8 September. The ground-attack group of the Special Purposes Air Command continued to support the left flank of the Tenth Army, while the remainder of the tactical support units remained tied down in the Battle of Radom.

9 September. To relieve pressure on the left flank of the Tenth Army and thereby relieve the overall situation around Warsaw, the bulk of the bomber forces of Special Purposes Air Command were committed to attack Warsaw-Praga. Concurrently these forces were involved largely in the battle at Radom, which on this day reached its climax.

10 September. The units of the Special Purposes Air Command again were committed against Warsaw-Praga, since it no longer was possible for them to participate in the battle at Radom.

11 September. The units of the Special Purposes Air Command were not committed in action.

12 September. The ground situation west of Warsaw had been so far clarified that only weak screening forces were left by the flank of the Tenth Army at Warsaw, while the bulk of the army had already faced about to the west. Apparently there was no air action on this day. The battle at Radom came to an end on this day so that the Luftwaffe forces were released for participation in the Battle of Kutno.

13 September. For the first time all attack units were committed in the area northeast of Lodz, where the 77th Dive-Bomber Wing and the ground-attack group scored outstanding successes in attacks on densely massed Polish troop movements. In the afternoon an attack by only 183 aircraft was directed against Warsaw. The results achieved were not satisfactory, but did have a direct effect on the situation west of the city.¹³

14 September. All air operations were seriously curtailed and hampered by bad weather. While the Tenth Army was grouping its forces west of Warsaw to intercept the Polish drive from the west and while the Eighth Army was reaching the Kutno-Lowicz line in its advance from southwest, the Luftwaffe command was watching developments farther north. However, severe fighting was still in process around Sucha, the location of the command post of the Special Purposes Air Command, where the terrain around the airfields still had to be cleared of Polish forces. The 1st Air Division, transferred to the Fourth Air Fleet, had instructions to be on the alert for operations in direct support of the Eighth Army.

15 September. No major changes had taken place in the overall situation and the majority of the Luftwaffe units were resting. Although under instructions to support the Eighth Army

13. Chapter 5, pp. 48-9.

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they were unable to operate because of the unfavorable weather.

16 September. The Eighth and Tenth Armies continued to narrow down the pocket at the Bzura River, repelling Polish breakout attempts. Again unfavorable weather prevented air missions during the forenoon. In the afternoon, however, two concentrated and highly effective attacks were flown against large Polish troop movements north of Lodz and north of Sochazew. At the same time units of the First Air Fleet operating from Eastern Prussia attacked the Polish forces pocketed in the Kutno area.

17 September. The Eighth Army had failed in its efforts to achieve a decisive drive into the Polish troop concentrations north of Lowicz. Since early morning the Tenth Army had been involved in bitter defensive battles against Polish forces attacking from the west and a general crisis seemed to be developing.

In this critical overall situation all forces of the Special Purposes Air Command were committed from dawn on in attacks against the large Polish troop masses at the Bzura River. Mission after mission was flown, some of the groups taking off as many as five times in quick succession. The entire battle area was veritably ploughed up, and the effects of this large-scale air attack were overwhelming. Around midday already, Polish movements started to decrease, and in the afternoon the Polish troops

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were so demoralized by the continuous air attacks that they threw their weapons away. In view of the complete defenselessness of the Polish troops, the air attacks were halted at the request of German unit commanders, and only patrols were maintained over the battlefield. All in all, 820 aircraft had unloaded approximately 856 000 pounds of bombs on the Polish forces. The evening report by the Special Purposes Air Command to the Commander in Chief of the Luftwaffe read as follows:¹⁴ "In operations involving four to five missions each, the units of the Special Purposes Air Command completely broke the morale of the enveloped Polish troops, who threw away their weapons in the afternoon. s/Richt-hofen."

18 September. The Fourth Air Fleet held strong forces, namely, the 1st Air Division and the units of the Special Purposes Air Command, ready for continued participation in the battles around Kutno, but no further air action was necessary. The large scale air attacks of the previous day only now began to take full effect. They completely shattered the last vestige of Polish will to resist, and had the effect of clearing the entire battlefield on this and the following days. Under the immediate impression of battle events, the Army openly admitted the decisively

¹⁴ Fliegerfuehrer z.b.V. im Polenfeldzug, a compilation by H. W. Deichmann, Munich, 1953; Karlsruhe Document Collection. See Introduction to Part 2, above.

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contribution of the Luftwaffe to the successful outcome of the battle at Kutno. This appreciation is expressed markedly in a message on 10 September by teletype from Generaloberst von Reichenau, Commanding General, Tenth Army, to General von Richthofen: The role played by the Luftwaffe was all the more remarkable in view of the fact that air units participated simultaneously in the two battles of envelopment fought in the central area of the front. Repeatedly, unfavorable weather conditions made it impossible for the air units to fly their missions. Apart from a number of small scale attacks, they nevertheless succeeded in carrying out three major attacks, namely, on 13, 16, and 17 September. It was this last attack which decided the issue in the battle.¹⁵

15. The Wehrmacht bulletin of 18 September contained the following passage: "The Luftwaffe has.....executed its assigned mission in the east. Numerous air and antiaircraft artillery units have been assembled and are available for commitment in other areas." Karlsruhe Document Collection.

CHAPTER 4

OPERATIONS BY THE FIRST AND FOURTH AIR FLEETS
IN SUPPORT OF THE ENVELOPING FLANK IN THE
NORTH AND SOUTH AREAS

While the bulk of Luftwaffe forces were tied down by direct support missions in the Kutno battle of envelopment in the center, the two air fleets used their remaining forces for continuous bombing missions in the northern and southern areas in indirect support of army operations. They continued to conduct strategic air warfare, measured by the standards of those days, in the far rear of the Polish zone of operations and in the Polish interior, until the 17 September, on which day intervention by the Soviet Union began to narrow down these territories.¹⁶ These operations produced no really decisive results in the sense of genuine air warfare. It is only natural that the intensity of air operations decreased in direct proportion to the transfer of air units from the east to the west.¹⁷ Nevertheless, the continuous air operations did much in determining the time requirements and the success of the far-flung army operations, for which they had blazed the way from the outset.

However, while the bomber units of the Fourth Air Fleet in

16. An account of the Soviet intervention follows in Chapter 7.

17. More details will be found in Chapter 6.

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southeastern Poland were committed in action almost completely independent of the other air operations and almost exclusively in direct support of ground operations by the Fourteenth Army, the operations of the First Air Fleet in most cases were closely linked with and directly affected by the decisive ground battles of the entire campaign, in particular with the battle at Kutno and immediately after with the battles for the Polish fortifications. Since combat events in the central area decided the entire Polish campaign, so that the "Eighteen Day Campaign" came to an end already on 19 September, and because the battles for the fortifications, which followed immediately, served merely to remove the last remaining Polish strongholds of resistance, the operational envelopment maneuvers, particularly so far as the Luftwaffe was concerned, were only of incidental significance.

I. FIRST AIR FLEET OPERATIONS IN THE NORTHERN AREA.

After transfer of the 1st Air Division to the Fourth Air Fleet and the shift of main emphasis to the southern area, of which shift the transfer of the 1st Division was a sign, the units of the Luftwaffe Command Eastern Prussia were the only forces remaining under control by the First Air Fleet. These forces had been reinforced by units of the 1st Air Division, particularly the 27th Bomber Wing, after 5 September. At this time, at the beginning of the battles of envelopment at Radom and Kutno, the

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air forces stationed in Eastern Prussia were employed in missions of indirect support for the Third and Fourth Armies. Approximately one-half of the attack units were employed as what might be called extended artillery. The 2d and 27th Bomber Wings flew repeated missions, the former at Ostrolenka and the latter at Lomza, to crush Polish resistance at the Narev River.

The other units of Luftwaffe Command Eastern Prussia were committed during this phase against the bridges in Warsaw and the Vistula River bridges farther south. Elements were also assigned to patrol the Polish railroads and attack the rail depots and lines immediately behind the Polish front as well as other rail installations immediately ahead of the Third and Fourth Armies and farther in the Polish rear in northeastern Poland. One bomber group, the 3d Group, 27th Bomber Wing, had been assigned to Guderian's XIX Panzer Corps for flank protection and reconnaissance in that corps' advance on Brest-Litovsk as the extreme left flank German unit. However, air-ground cooperation was not very satisfactory during the three days of special action by the bomber group; the rapid advance of the ground forces made proper contact and communications between the corps and the supporting air forces impossible. Nevertheless, a factor which had an important bearing on the entire German flank movement was the fact that thorough air reconnaissance on the east flank of

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of the panzer corps at no time detected any serious threat from the east.

The new organization for the air forces committed in Eastern Prussia, and simultaneously the new organization for the First Air Fleet, became effective approximately on 10 September.¹⁸ From then on the operations of the air fleet must be considered separately for two separate groupments, which here will be called Group West and Group East.

Group West controlled two air wings, the 27th Bomber Wing--- with two groups--, and the 3d Bomber Wing--with two groups, besides at least one dive-bomber group, making a total of at least five offensive type groups, which were available to the command until 20 September. Of all forces operating under Group West, the daily after action reports of the 27th Bomber Wing are available in full.¹⁹ The newly assigned zone of operations of the wing included targets around and south of Warsaw. Within the general pattern for the battle of Kutno, the wing had the mission of preventing the eastward escape of enveloped Polish forces and of preventing the movement of Polish replacements and supplies to the battle area from the east. For this purpose it was essential to fly continuous missions designed to interdict all rail and road communications from east and southeast to the area, to halt all Polish transpor-

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transportation movements and troop concentrations, and to destroy all communications still in existence. Surprisingly enough, however, the execution of this mission was not as simple as it appeared at first glance. Although conducted at very low altitudes, reconnaissance produced no important results, so that the combat units had to seek their own targets for attack within the areas assigned to them. The Polish troops were widely dispersed and were usually concealed in forests. This made it necessary to attack at low levels, and these attacks were very costly and produced small visible effects.

Concerning the other wing, the 3d Bomber Wing and the dive-bomber groups and their operations, practically nothing could be established. For this reason it is not possible to give an authentic account of the role played by the First Air Fleet in the battle at Kutno in respect to the number of missions flown by the air fleet's units, the sizes of those attacks, or the

18. See Chapter I, II, III.

19. Nielsen: Der Einsatz der III./KG 27 (Boelcke); Karlsruhe Document Collection.

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the intensity of the commitments. However, the air fleet cannot have played a very important role.

Initially, the newly established Group East had only the 1st Training Wing with 2 bomber groups, the 2d Bomber Wing with 2 bomber groups, and the 3d Group, 27th Bomber Wing, making a total of five bomber groups. In addition, it can be assumed with certainty that the command was assigned one twin-engine fighter group, namely, the 1st Group, 1st Air Wing, and possibly another dive-bomber group. Since the bomber groups of the 1st Training Wing were transferred to the Zone of Interior as early as on 16 September the command retained in practice only three bomber groups, of which it also lost the 3d Group, 27th Bomber Wing, through transfer on 20 September. On 19 September the headquarters staff of the 1st Luftwaffe Training Division--which was the tactical force of Group East, was also transferred to the west. It is thus evident that the entire Group East command in truth was only a very temporary creation which dissolved automatically during the operation under discussion. Nevertheless, the command did carry out a few operations which had a significant impact on overall developments in the east.

The primary mission of Group East was to close the area east of the Vistula and prevent the movement of Polish forces from the deep Polish interior towards Warsaw and to interdict rail and

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road transportation, particularly from Brest and Lublin. The operations of Group East were designed primarily to cause systematic destruction of the northeastern Polish rail network, and this purpose was achieved to a full extent because of the complete lack of Polish opposition. However, only two groups of the 2d Bomber Wing remained committed in these operations after the early withdrawal of the three bomber groups referred to above. On about 14 September weather conditions deteriorated in the whole of the area of Northern Poland, so that even the remaining two bomber groups were seriously restricted in their operations. Nevertheless, their remainder in the area at least made it possible to carry out a number of missions consonant with the current concepts of strategic air warfare. Group East did not participate in tactical air support operations for the Army, with the exception of fighters employed irregularly and in small units to protect the Fourth Army on its southward advance. These units did not contact hostile forces.

In a summary assessment of the share of the First Air Fleet in the final battles fought in the northern areas of Poland the result is relatively negative. With its steadily decreasing striking power the air fleet participated only indirectly in the decisively important battles west of the Vistula, by completely preventing Polish rail and road traffic in northern and northeastern Poland.

This action had a dual effect: (1) it prevented the assembly of new Polish forces and the movement of such forces westward for participation in the decisive battles fought there; and (2) it prevented the eastward escape of sizable Polish forces from the German envelopment. During the decisive battles of the campaign, the First Air Fleet thus screened the German forces against interference from the east.

II. FOURTH AIR FLEET IN THE SOUTHERN AREA.

Concerning the organization, strength, and missions of the offensive forces under the Fourth Air Fleet after 6 September, the following details are known:

The number of units controlled by the Special Purposes Air Command increased steadily until 7 September.²⁰ From then on until the end of the campaign, these forces remained committed in the center, initially participating in the Radom and Kutno battles of envelopment and later in the final operations against the fortresses of Warsaw and Modlin. During these stages of the campaign the command was only formally under the control of the Fourth Air Fleet.²¹

The 1st Air Division also was committed in the center with its forces fluctuating continuously in strength and composition. Actually, it was a division only in name. It was transferred to the west on 19 September.²²

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Right up to the end of the campaign the 2d Air Division was the only major air unit committed in the south. For the performance of its assigned missions the division controlled the following units:

1st Bomber Wing with 2 groups; 4th bomber wing with 3 groups;
26th Bomber Wing with 2 groups; 55th Bomber Wing with 2 groups;
76th Bomber Wing with 2 groups.

During the period under discussion here the 2d Air Division thus had a force totalling 11 bomber groups. The 77th Bomber Wing meanwhile had been transferred to the Special Purposes Air Command and even the remaining 11 bomber ^{groups} were at no time available to the division at their full strength. Transfers to the West commenced

20. Chapter 1, III, above.

21. For operations of the units of the Special Purposes Air Command see Chapters 4 and 5, Part 2.

22. The operations of the 1st Air Division are described in Chapter 3.

as early as on 12 September, when the 26th Bomber Group moved out, and on 19 September division headquarters followed with the majority of the units still under its control.

As described in the case of the First Air Fleet, in the north, the large air units operating under the Fourth Air Fleet disappeared within a relatively short time. Owing to the continuous change of units assigned and to the remoteness of this area from the scene of the main battles fought in the theater, it is extremely difficult to obtain details concerning the missions flown.

Concerning the concepts of the Commander in Chief of the Luftwaffe on the conduct of operations in the southern regions of Poland the following can be stated: This area, the command zone of the 2d Air Division, had received careful attention at an early stage.

While the crisis was developing west of Warsaw and while at the same time the original operational target, Warsaw, was coming steadily more and more into the foreground, the tendency became increasingly clear at the Luftwaffe High Command to prepare for the development of a new area of main effort in air operations in the south. This tendency is revealed, if by no other fact, then by the fact that the 2d Air Division included all strategic bomber forces. Other evidence is the plan of operations for the 7th Air Division in the Yaroslav region.²³

²³. More details on this subject will be found in Chapter 7.

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Along the same line of thought was the plan to transfer to Southern Poland as soon as possible the units of the Special Purposes Air Command, so as to obtain an overwhelmingly strong air power concentration in the south against the eventuality of later combat operations in the region of Galicia. And still further confirmation is available in the fact that, during the battle at Kutno, the 1st Bomber Wing was taken from the 1st Air Division and transferred to the 2d Air Division for commitment in Galicia with the specific mission of attacking railroad targets in the general area of Lvov.

However, actual developments in the situation soon compelled the Luftwaffe High Command to make entirely different preparations. These new developments had the following three results: (1) The necessity became inescapable to protect the right flank of the German movement against any threat by Polish forces which might be newly organized; (2) Action had to be taken to prevent the southeastward escape of Polish forces; and (3) It became necessary to keep the Rumanian frontier under very careful observation, primarily to prevent Polish troops from crossing the border. For this purpose, systematic operations against all rail routes from the Lvov area to Rumania were ordered repeatedly. Consideration even was given to the possibility that Rumanian railway rolling stock might be used

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to support the Polish Army with Rumanian supplies of materiel.

All these new lines of thought resulted in a clearly defined emphasis on rail interdiction operations in Southeastern Poland. Directive # 15 by the Commander in Chief of the Luftwaffe and dated 15 September²⁴ throws some light on the type of operations intended in this connection. For quite some time both air fleets and their units had ceased efforts to interdict rail traffic by attacks against rail depots and junctions, since experience had shown that such points usually had strong antiaircraft artillery defenses. It had also been found that destructions were never thorough enough to prevent an early resumption of traffic at least on a few tracks. The new tactics aimed at employing very small units, ranging from individual planes to flight-size units, in low-level attacks against the open way, whenever possible in cuttings or at man-made structures. When successful, such attacks not only blocked damaged routes, but also the rail depots in both directions until the damage was repaired. These new tactics had been applied previously with success and continued in use throughout the Polish campaign.

In broad outline the missions of the 2d Air Division can be

²⁴. Appendix 54

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can be formulated as follows: In close cooperation with Army Group South the air division was to provide direct and indirect support for that army groups southern spearhead army, the Fourteenth Army, and on request was to intervene in ground action supporting the army's advance. Units of the air division were to interdict rail and road traffic in the far Polish rear in order to prevent the southeastward withdrawal of defeated Polish forces. Units also were to patrol the Rumanian frontier and prevent all cross-frontier traffic

These missions were executed in the following manner:

The Mission of Army Support. In the cross-Vistula River pursuit operations, which lasted from 10-20 September, offensive units of the 2d Air Division intervened when operations receded eastward from the Vistula River. East of the River divisional elements took over pursuit of the retreating Polish forces and were highly successful. Other divisional elements supported the ground forces in pursuit of the Polish units across the San River. Finally, divisional bomber units supported Army operations in the ultimate battles at Lemberg and Tomaszov.

The Rail and Road Interdiction Mission. Here it appears that main emphasis throughout was against the rail routes in Southern Poland. The objectives assigned for attack were: the

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Rzeszow-Przemysl-Lvov route, the Lublin-Sokal-Lvov-Stryj area, the Yaroslav-Lvov road, and the Lvov area in general. Continuous bombing missions were flown against Lvov, the main rail junction in Southeastern Poland, and aiming seems to have been particularly good in these attacks. Unfortunately, however, there is no possibility to ascertain the results in any detail.

The Frontier Patrol Mission. Under orders from the Luftwaffe High Command the 76th Bomber Wing displaced to Neudorf, Slovakia, on 7 September. From here the wing's units were able to maintain effective control of the nearby Polish-Rumanian frontier and all communications between the two countries, and to take combat action whenever necessary. Nevertheless, the wing was unable to prevent the movement of large Polish army forces across the border into neutral Rumania. There can be no doubt that this was

due to faulty tactical reconnaissance and operations, the causes of which cannot be established at this late date. It is possible that the Poles restricted all west to east movements to night in order to escape German daylight reconnaissance. They had given evidence previously in numerous movements and combat activities in all areas of their aptitude at camouflage and concealment against air reconnaissance.

The role played by the Fourth Air Fleet in operations in the southern areas of Poland can be summarized as follows: While large forces were still committed in operations supporting the Army in the center, the air fleet once again was able to conduct operational warfare of the old style in the southern areas of Poland. In spite of all theoretical considerations, this type of warfare seems to have retained primary importance in the overall operations of the Luftwaffe. It is difficult to judge in retrospect what impact this operational air warfare in the extreme southern areas had on the overall operations of the Army in Poland. In assessing the value of the overall operations of the Fourth Air Fleet it should be remembered, however, that the air fleet not only supported the Fourteenth Army directly and indirectly, but that it also supported army units which had advanced far beyond reach of their supply bases. Time

and again the systematically conducted supply operations of the air fleet were able to maintain the striking power of these Army units.

In closing it appears necessary to review briefly once again the final operational warfare conducted by both air fleets in connection with the last efforts of the Polish Supreme Command to recover operational freedom east of the Vistula River.²⁵ While the battles west of the Vistula were still in progress, reconnaissance east of the river gradually developed the following picture: Before the German Fourteenth Army elements of the Polish southern army were falling back on Lwow, to continue their withdrawal toward Tarnopol. The bulk of the Polish forces were endeavoring to withdraw northeastward, roughly to a line from Rovneto Kovel, where large concentrations were detected moving on rail and road routes and within settlements. At the same time rail and road movements were detected from the Warsaw-Brest line to the southeast. The forces involved here were those which had failed to cross the Vistula up- and downstream from Warsaw and other elements withdrawing before the growing pressure of the German Third Army and the newly established German Fourth Army farther east. Other movements were observed from the general area of Brest to northeast. Apart from the general Polish retrograde movements, individual rail movements gradually came into prominence which indicated

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that the Polish command had made a start at reorganizing what was left of its forces.

Judging by the direction of the Polish retrograde movements, topographical factors, and the rail situation, only one possibility seemed to exist for the organization of new Polish forces: The gigantic Pripet marshes divide Eastern Poland into two separate parts; therefore the only possibility was to organize a southern group around Rovne-Kovel-Brody and a northern group of forces in the general area of Baranovice-Lida-Volkovysk. Once German forces succeeded in capturing the important traffic center of Brest, the two groups of Polish forces would have to rely for

²⁵W. Speidel, Der Einsatz der Luftwaffe, 1939; Karlsruhe Document Collection, Vol. 1.

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contact with each other exclusively on one railroad which extended along the Soviet-Russian border from Rovne to Baranovice. Once the Polish movements had been properly interpreted, the operational Luftwaffe had only one objective: to destroy the moving columns on roads and the rail troop transports in order from the outset to make any organized control of a new Polish military operation impossible. For this reason, air units attacked and destroyed all railroads in the southeastern and northeastern areas as well as all routes connecting the two areas; as a result, the troop transport trains were held up everywhere, which led to traffic jams in all rail depots. Meanwhile, other air units attacked and destroyed or scattered vehicle columns and marching troops on all roads, while yet other units pursued the Polish headquarters staff and the Polish Government on their flight from Warsaw through Lublin to the Rumanian border, bombing them out of their quarters each day, so that they were unable to exercise any control over the fleeing Polish troops.

In this way the Luftwaffe had already also beaten what was left of Polish forces east of the Vistula River by the time Soviet forces on 17 September crossed the Soviet Russian-Polish border and captured the completely leaderless Polish troops.

CHAPTER 5

WARSAW, THE FOCAL POINT OF AIR ATTACK

For centuries past Warsaw has been the intellectual, economical, military, and political heart of Poland. It still held this position at the outbreak of hostilities in 1939, for which reason it quite naturally had to be the main objective of all attacks by the Luftwaffe and the German Army. The city was also of enormous importance within the entire Polish system of communications, because all routes of communication from east and west converged on the large bridges across the Vistula River in the city. The whole plan of operations by the German command was based on army operations so conducted that the main German attack force, the Tenth Army, operating from Silesia, could drive directly on Warsaw in order to seize this vitally important center of all Polish activities as soon as possible and thereby prevent its exploitation by the Polish command for military, political, and armament purposes.

It proved impossible to execute this plan without friction. The panzer spearheads of the Tenth Army admittedly reached the suburbs of Warsaw as early as on 8 September, but there was no possibility for an immediate exploitation of this successful drive because the Tenth Army shortly thereafter found itself compelled to forego Warsaw as its primary objective and regroup its forces

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for westward defense and to eliminate the threat which had developed in its rear. This necessity was due to the fact that all German Army and Luftwaffe forces available for attack were tied up during the decisively important days in the battle at Kutno.²⁶

It was only after the successful conclusion of the battle at Kutno, in the securing of which the Luftwaffe played the major role, that the Army and the Luftwaffe once again were free to concentrate on the drive on Warsaw. By that time the German Third Army, operating from Eastern Prussia, had advanced east of the Vistula River as far as Praga, the important suburb of Warsaw east of the river where most of the working classes lived. This practically closed the Polish capital off from and to the east, and also severed all main approach routes in either direction. However, this did not solve the problem which Warsaw presented by a long way. This problem only became one of major importance for the German Army and Luftwaffe again on about 20 September, when measures could be introduced aiming at the complete investment of the city, which meanwhile had developed into a fortress. From then on until the end of the campaign Warsaw was the main target of attack for the Luftwaffe. Here, the problem for the Luftwaffe was one of four facets: operations had to be conducted against the city as the center of Polish air power and of the Polish aircraft industry; as the center of Polish military and political leadership and of the armament industry as

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such; as the focal point of Polish communications; and as a fortress

Air operations against Warsaw present a very varied picture, in which the interplay of air and ground operations is clearly illustrated. The phase of operational air warfare was followed by the phase in which the Luftwaffe served as a substitute for siege artillery. In this phase, which was to decide the outcome of the campaign only a fraction of the forces of the Luftwaffe were employed, since the bulk of all German air forces had already been transferred to the western theater of operations.

26. See Chapter 3, pp. 17 ff.

In spite of the numerous changes in the assignment of targets and in the development of power concentrations, and in spite of the decreasing number of Luftwaffe units participating, it is possible to discern a material and chronological pattern for the overall operations against Warsaw. The general tenor of operations throughout the days of combat here was uniform, and the whole operation can be summarized in seven phases of battle.

THE FIRST PHASE OF THE BATTLE

1-2 September: Attacks against the Polish Air Forces
in the Warsaw Area

1 September. As part of the all-out attack against the Polish air forces planned for the first day of the campaign, German air units already in the early morning attacked the airfields situated on the outskirts of Warsaw, namely at Okecie and Molotov. Residential quarters and the civilian population in general were not affected by these attacks against strictly military targets.²⁷

According to Operational Plan Weiss²⁸ preparations further were to be made for a concentrated attack by all forces committed against Weiss to strike the military installations and armament works in Warsaw on the afternoon of the first day of attack.

The attack was to be launched on receipt of the code word Wasserkante. The plan for this operation and the target assignments

²⁷. See Part 2, Ch. 2 and 3, pp. 24 ff.

²⁸. See Part 2, Ch. 1., pp. 1 ff.

were directed exclusively in accordance with the military significance of the objectives involved. However, unfavorable weather conditions made it necessary already early on 1 September to halt operations in execution of the plans prepared.²⁹

2 September. As part of the general counter-air mission, special orders were issued to insure adequate air reconnaissance over Warsaw. On the basis of the reconnaissance results obtained, the Warsaw-Okecie airfield was again taken under attack. Attacks against three radio stations in Warsaw also were executed according to orders, but no details have become known on the results obtained. Plans for Operation Wasserkante also were again taken up but once again had to be dropped. In the night of 2-3 September the Luftwaffe again included attacks on Warsaw in its operational planning and orders were issued for a bomber squadron operating from Eastern Prussia to attack the Warsaw-Okecie airfield. In this attack inhabited districts of Warsaw also suffered.³⁰

Thus, the first phase of operations was characterized by counter-air operations and by the plan for an all-out attack on Warsaw (Operation Wasserkante), which was planned and abandoned twice.

THE SECOND PHASE OF AIR OPERATIONS

3-6 September: Rail Interdiction Operations around Warsaw

29. Part 2, Ch. 2, pp. 12 ff.

30. Part 2, Ch. 3, pp. 33.

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- 31. Part 2, Ch. 3., p. 24.
 - 32. Ibid, Ch. 4, p. 46.
 - 33. Ibid, Ch. 4, p. 47.
 - 34. Ibid, Ch. 6, p. 83.

The directives to the First and Fourth Air Fleets contained no mention of Warsaw as a target of attack.³¹ However, the First Air Fleet did include Warsaw in its operations as will be revealed in the following passages.

3 September. Orders from the Wehrmacht High Command prescribed main emphasis in air operations to be placed on attacks against Polish transports of troops and other rear movements.³² Early morning reconnaissance revealed lively transportation activities from northwestern Poland to Warsaw. Thereupon the specifically assigned and prescribed attacks by First Air Fleet units were carried out against the rail system west of Warsaw.³³ As part of these operations, a rail depot in Warsaw (a marshalling yard to be precise) was also attacked for the first time. This brought Warsaw into the indirect zone of operations.

4 September. Attacks were directed against the general area of Warsaw, specifically against the freight and marshalling rail depots of Warsaw-West and Warsaw-East, and rail depots east and north of the city.

5 September. There were no air attacks on this day. The First Air Fleet had recognized the new Polish strategic concentration in the general area of Lodz and concentrated all its efforts against this area.³⁴ A second area of main effort was northeast of Warsaw, in the line of advance of the German 3d Army.

6 September. Warsaw apparently spent a quiet day. It is not mentioned in operational orders, and reports from field units also are not available.

THE THIRD PHASE OF AIR OPERATIONS

7-11 September: Attacks against Vistula River Bridges and Routes through Warsaw

No information is available on the strengths employed by the First Air Fleet in the battles for Warsaw or on the results achieved.

8 September. All that can be ascertained is that bomber forces of the First Air Fleet bombed Vistula River bridges south of Warsaw and, from an altitude of 20 000 feet, dropped incendiaries on the suburb of Praga. On the same day armored units advancing from the west reached the suburbs of Warsaw.

9 September. Apart from an attack by the 2d Group, 1st Air Wing, against roads southeast of Warsaw, no records are available concerning operations by units of the First Air Fleet. In contrast, the Special Purposes Command in close support operations committed the bulk of its forces in attacks against the approaches to Praga and against artillery positions south of this suburb in support of the German Fourth Panzer Division, which had already advanced as far as Warsaw.³⁵

10 September. Nothing is known concerning First Air Fleet operation

35. See also Part 3, Ch. 3, Par 1, pp. 12 ff.

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The Special Purposes Air Command again committed the bulk of its forces against Polish artillery around Praga, and its 77th Bomber Wing in operations to interdict the rail routes leading east and southeast from Warsaw. All of these actions were in direct support of the Army forces operating in the southern outskirts of Warsaw west of the Vistula River.

On both days the First Air Fleet had the concurrent mission of interdicting traffic on the Vistula River bridges and attacking the Polish forces withdrawing eastward through Warsaw. The two air fleets thus had separate missions and objectives, the effects of which had a combined effect in the general area of Warsaw.

11 September. The envelopment of Warsaw was taking shape, beginning in the east. The foremost elements of the German Third Army were approaching the capital from north. With the First Air Fleet under instructions to participate in the ground operations east of the Vistula River, the Special Purposes Air Command received simultaneous instructions to interfere with Polish movements through Warsaw by attacking the northern districts of the city, although, strictly speaking, these districts were within the zone of the First Air Fleet. This surprising measure probably was due to the better capabilities of tactical support units for precision bombing on pinpoint targets. On this day both air fleets again operated success-

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successsfully over the same target area as their joint main objective.

A summarized review of events in the third phase of the campaign around Warsaw reveals as the most important point the fact that the city itself, as the capital of Poland, figured in actual combat operations for the first time during this phase. Initially, the objective was only to attack and destroy the Vistula River bridges, and it is an established fact that repeated attacks were flown daily against these bridges within and around Warsaw daily by bomber units of the First Air Fleet from 7 September on. However, these were high altitude attacks and caused only temporary interruptions without resulting in any serious destruction to the bridges. The few chance hits caused only minor damage which was easily repaired. All bridges remained usable right up to the end of the campaign. That they lost their strategic importance was due to action taken by the Special Purposes Air Command to block all exits from Praga.

It is only natural that the residential quarters and the civilian population also were affected by the prescribed air attacks against the routes through Warsaw. Nonetheless, the bombing was fully justified by the the requirements of the overall operations which necessitated action against the Polish field units moving eastward through the city. The actions of the Polish command

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necessarily resulted in Warsaw, the capital of Poland, being treated as part of the area of operations.

THE FIFTH PHASE OF AIR OPERATIONS

12-14 September: Air Support Requirements in the Battle of Kutno Overshadow the Importance of Warsaw as a Target for Air Attack.

12. September. The battle at Kutno had approached culmination point and the critical situation of the German ground forces necessitated the continued commitment of strong air forces. At the same time the

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Tenth Army found itself compelled to cease its drive on its main objective, Warsaw, and wheel its forces about to face attacks in its rear by Polish forces retreating from the west. This was also the first day on which Luftwaffe forces were transferred to the Western Theater.

13 September. Shortly after midnight the Chief of the Luftwaffe General Staff telephoned the following order to the Fourth Air Fleet:

The Fourth Air Fleet will commit units of the Special Purposes Air Command to attack the northwestern parts of Warsaw with incendiary bombs. Prior reconnaissance is essential to establish location of forward elements of German II Corps, advancing from Modlin on Warsaw, and avoid endangering own troops.

The air fleet apparently ordered all forces readied for this attack, but it seems that not all of the units earmarked for the purpose actually participated in the attack with incendiary bombs against Warsaw, which attack was carried out by approximately six bomber and dive-bomber groups. The attack apparently met with very small success, but deserves mention nevertheless, since it was the first actual incendiary bombing attack carried out against Warsaw. On the same day elements of both air fleets were committed

in the battle at Kutno and the 7th Air Division ceased to exist after transferring its only airborne regiment to the Eighth Army.

17 September. No air attacks against Warsaw are recorded on this day, but this can be assumed to have been due to the unfavorable weather conditions throughout the Polish theater.

Although no documentary evidence is available it can also be assumed that the First Air Fleet participated in action by the Third Army in front of Praga, assuming the purely tactical mission of extended artillery.

FIFTH PHASE OF AIR OPERATIONS

15-18 September: Pursuant to Orders from Higher Headquarters
Emphasis Is again Shifted to Warsaw

15 September. At 1330 the Special Purposes Air Command received special orders from the Commander in Chief of the Luftwaffe, transmitted through the Fourth Air Fleet, to resume attacks with tactical support units against the northwestern parts of Warsaw. However, this action appears to have been only in preparation for the planned all-out attacks against that city. Paragraph 4 of Directive # 15 by the Commander in Chief of the Luftwaffe for 16 September³⁶ states as follows: "A concentrated air attack by all forces of the First and Fourth Air Fleets against Warsaw is contemplated on 16 September."

³⁶. Appendix 54. Also Appendix 55: Directive for 17 September 1939.

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16 September. No directives issued on this day are available.

The only thing that seems clear is that the all-out attack against Warsaw, to be carried out in accordance with orders of the previous day, was not carried out.

17-18 September. The all-out attack against Warsaw, repeatedly ordered, also was not executed on either of these two days. This could be due to military and political reasons, but the lack of documentary evidence makes it impossible to trace the reasoning at the Wehrmacht and Luftwaffe High Commands.

THE SIXTH PHASE OF AIR OPERATIONS

19-22 September: Warsaw Develops into a Fortress;

Preparations for the All-Out Attack.

19 September. By this day the Polish forces enveloped at Kutno--so far as they had not been destroyed by air attack--had practically all surrendered. This released large German Army and Luftwaffe forces for other combat missions. The battle for Warsaw now definitely took priority, with main emphasis initially on combat on the eastern banks of the Vistula River. The plan was to seize the suburb Praga and advance to the Vistula, thereby contracting the hard core of the fortifications. All measures taken on this and the following few days were designed exclusively to serve as preparations for the planned major attack against the Polish capital. The Polish command having refused a German demand for

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surrender, the German command had finally decided to execute the attack. In the area between the Vistula River and the advancing Soviet forces coming from the East, the outer ring of the overall German maneuvers had been closed when the German Third and Fourth Armies joined forces.

20 September. The warning order for 20 September³⁷ contained the following requirement: "First Air Fleet will maintain forces ready to participate in battle at Modlin and Warsaw in very close agreement with the Third Army." On the ground, German troops proceeded without interruption in their movements to envelop Warsaw. Modlin had been a fortress from the outset, and had received very large forces retreating from north besides elements of the Polish army which had broken through from the west. Warsaw, in contrast, was only declared a fortress at this juncture. It was defended by all remnants of the various Army elements present within the city at the time. The defending force thus consisted of the original garrison plus the elements streaming in from all sides. What was assembled here constituted the bulk of what was left of the defeated Polish armies, which had found further retreat to east of the Vistula River prevented by continuous German air attacks. Modlin and Warsaw thus from this juncture on formed one consolidated fortress, at least until it was no longer possible for the Poles to maintain contact between the two cities. Even after German

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forces had severed the last contact between the two cities, the two fortresses continued to support each other, producing the effects of an integrated system of fortifications.

In the afternoon all bomber units of the Special Purposes Air Command, with a total strength of 620 aircraft, attacked Polish troops between Warsaw and Modlin to sever ground contact between the two cities. Continuous low-level attacks, in which fighters and ground-attack units also participated, annihilated the Polish troops in the area. Communications between the two cities were thus broken, but the German ground forces failed in their efforts to prevent their reestablishment.

21 September. The next directive issued, # 18 for 21 September,³⁸ confirms continued preparations for the battle against Warsaw. This confirmation is substantiated by a statement that a decisive ground attack with air support against the suburb Praga was being prepared. The troops were to be informed in good time of the deadline for the attack.

On 21 September the Commander in Chief of the Luftwaffe also issued the following important order:³⁹

Effective immediately First and Fourth Air Fleets are authorized to attack only in the Warsaw area. Otherwise, missions may be flown in the areas east of the San-

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Vistula-Narev River line and only at the specific request of appropriate Army headquarters. In any such action the line reached by Soviet troops must be ascertained and respected.

Although this order does not appear quite clear and unmistakable in all points, it reveals unequivocally that Warsaw was at that time the main target for Luftwaffe attack and other activities. Missions in support of the ground forces were to be flown only in response to specific requests while the Army was executing its wide-sweeping envelopment maneuvers east of the San-Vistula River line.

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37. (p.52) Appendix 56: Directives and Warning Orders by the Commander in Chief of the Luftwaffe concerning Warsaw during the 16-23 September period.
 38. Appendix Volume: Appendix 56.
 39. Teletype from Commander in Chief of the Luftwaffe to First and Fourth Air Fleets, 1120, 21 Sep 39 (Fuehrungsstab Ia # 4751/39, geh.), Karlsruhe Document Collection.

Apparently due to unfavorable weather conditions, the missions actually executed on this day were on a very small scale. Quite possibly, no air missions at all were flown. So far as the tactical units of the Special Purposes Air Command are concerned evidence is available that ".....bad weather completely prevents all air action."⁴⁰ The original plan had been for the command to again commit all of its forces against the Polish troops massed between Warsaw and Modlin. General von Richthofen's journal entries for this day include a contradictory statement: "At last the Commander in Chief of the Luftwaffe has assigned responsibility for combat against Warsaw to the Special Purposes Air Command. The Luftwaffe is to take decisive action in preparation for the Army attack." For this purpose the Special Purposes Air Command requested from the Commander in Chief of the Luftwaffe allocation of one He-111 wing specifically for bombing with incendiaries.⁴¹ These entries are contradictory to the substance of the request submitted on the next day of combat.⁴² These unclear points cannot be cleared up with the sources presently available.

22 September. Directive # 19⁴³ governing combat action on this

40. H. W. Deichmann, Munich, 1953: Fliegerfuehrer z.b.V., Sheet 32, Vol. 2, Introduction, p. III; and Karlsruhe Document Collection.

41. Ibid

42. Follows on 22 Sep 39; see page 56, below.

43. Appendix Volume: Appendix 56.

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day contains the laconic statement that the measures ordered for 21 September applied also for 22 September. All that can be ascertained concerning air operations is that the Special Purposes Air Command committed strong forces in direct support missions against the northern segment of Modlin, where Provisional Army Group Kempf was being held up by Polish resistance. The air attacks were flown during the midday hours and were directed primarily against barracks, fortification works, bridges, artillery positions, and antiaircraft guns. Modlin was within the First Air Fleet zone of operations.

Apparently Warsaw proper was not attacked on this day. The importance attached to accelerated action to seize Praga is evident, however, from the fact that on this day of battle Hitler personally arrived at Third Army Headquarters to discuss the execution of the ground attack from the eastern fringes of Praga and such subjects as the adjustment of artillery fire and preparations for the infantry attack. Here it seems appropriate to quote important details from the personal recollections of General Speidel:⁴⁴

On the early forenoon of 22 September Hitler landed at an advanced airfield northeast of Warsaw. Together with the Commanding General (General von Kuechler) and Chief of

44. At the time Chief of Staff, First Air Fleet.

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Staff of the Third Army and the Commanding General (General Kesselring) and Chief of Staff of the First Air Fleet he drove through the long narrow belt of forest extending from south to north between Warsaw and Volomin until he reached the eastern outskirts of Praga. Fighting was still in progress in the forests traversed, which were being mopped up by strong German infantry detachments searching for scattered Polish elements, and lively rifle fire could be heard throughout the trip. From the so-called American Church in the eastern district of Praga the party observed the army artillery batteries in position around the church adjusting their fire. Nothing could be seen of the infantry attack, but the sounds of battle were audible from the built up areas close by in the west. Polish counter-action appeared slight, with only scattered artillery fire. No German air units were observed attacking during this period.⁴⁵

A summary of events during this sixth phase of the campaign, the 19-22 September period, shows that during this phase, which opened with the ending of the large-scale battle of annihilation at Kutno, main interest centered on Warsaw. The strong German air forces hitherto tied down in action in the Kutno area were now free for other action and were commencing their fire preparation for the planned all-out attack against the last Polish stronghold.

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of Warsaw-Modlin, while the ground forces of the Eighth and Tenth Armies were regrouping to invest the fortresses of Warsaw and Modlin.

The real fact is that all forces of the Luftwaffe available in the Eastern Theater were concentrated against these two cities.⁴⁶ The

45. Continuation of personal reminiscences of General Speidel: "At the same time retired Generaloberst Freiherr von Fritsch, former Chief of the Army High Command was killed in action a few hundred yards from the improvised command post. His death was reported shortly thereafter to Hitler who seemed entirely unimpressed by the news.

46. For precise figures and other details see Chapter 6, below.

air attacks carried out during this phase by units of varying size served exclusively as preparation for the planned all-out air attack, which was designed to force a decision of the war.

Apart from the secondary areas of Gdynia and Hel on the Baltic coast, the fortresses of Warsaw and Modlin were the only remaining centers of organized Polish resistance.

SEVENTH PHASE OF AIR OPERATIONS

23-27 September: Final Battle for Warsaw and Modlin

From Directive # 20 for 23 September⁴⁷ it can be gathered conclusively and unmistakably that the order to open the attack against the fortresses of Warsaw and Modlin and to capture them by 3 October at latest came from the Supreme Commander of the Wehrmacht. It is beyond doubt that the timing and methods of these attacks were dictated by political considerations. West of the Vistula, Warsaw was to be attacked by ground forces with air support. Meanwhile, for political reasons, the suburb Praga, east of the Vistula and hitherto the main area of attack, was no longer to come under attack. According to the demarkation line meantime agreed upon with the Soviets, the eastern part of Warsaw was to fall to the Soviet Union.⁴⁸ On the whole the Hitler Directive involved here clearly

47. Appendix 56.

48. See Chapter 7, below.

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reveals that for military and political reasons it was a necessity to subdue and capture the real fortress of Warsaw west of the Vistula River. The mission of the Luftwaffe was to support the Army in the preparation and execution of the attack in very close cooperation with the Army forces committed at Warsaw. As priority targets instructions listed ".....the installations and establishments important for subsistence and supply....." in Warsaw. Thus, the first requirement was to destroy the basic essentials for the defense of the city, which meant such installations as electric, gas, and water works, granaries, and fuel and other storage facilities, in the sense of the requirements stipulated in the Manual on Air Operations (Luftwaffendienstvorschrift 16).⁴⁹ In line with this Hitler Directive, the Commander in Chief of the Luftwaffe at 2340 on 22 September forwarded the following teletype order for operations on 23 September:

Weather permitting, continuous harassing and wearing attacks will be flown throughout the day on 23 September against important economic and military targets and against the premises of military and political authorities in Warsaw. Target areas as follows: First Air Fleet Praga; Fourth Air Fleet Warsaw west of the Vistula River.

Three points deserve special attention in this order: (1)

⁴⁹•See Introduction, Part 1.

The specific designation of target areas once again established with the necessary clearness the boundary between the two air fleets; the activities of the strategic support group during the past few days⁵⁰ had resulted in a certain measure of confusion on this point; (2) The boundary previously and finally established on 14 September was clearly defined by the Vistula River, but the order left unclear which air fleet was responsible for action against Modlin. This city was north of the Vistula and its defenses faced north. It therefore belonged within the zone of the First Air Fleet, which also had the mission of supporting the Army forces of the Third Army attacking Modlin from the north; and (3) The fact that even at this final stage of the campaign the Commander in Chief of the Luftwaffe expressly ordered the execution of harassing and wearing attacks only against military, political, and economic targets of importance.

Owing to unfavorable weather, the preparation attacks against Warsaw designed by the Fourth Air Fleet had to be cancelled on this day. The cloud ceiling was at approximately 700 yards. In the meanwhile the Commander in Chief of the Luftwaffe had rejected the earlier request of the Special Purposes Air Command for reinforcement by an additional He-111 Wing. Instead, the command was assigned a transportation group, the 4th Group, 1st Special

50. See in particular p. 51, above.

Purposes Bomber Wing, to be committed in attacks with incendiary bombs. The Special Purposes Air Command had established a forward command post at Grodzisk, 16 miles west of Warsaw, for the conduct of operations against Warsaw and Modlin. No information is available on the activities of the First Air Fleet on this day, and it is to be assumed that the air fleet's units were not committed in action.

While the Army was preparing for the ground attack against Warsaw, the Special Purposes Air Command endeavored to discuss particulars concerning air support with Eighth Army Headquarters. Apparently no satisfactory solution was reached here, but reports stress the excellent cooperation existing between the Luftwaffe and other Army commands, particularly the Third and Tenth Armies.

Consonant with the requirements of Directive # 21 the harassing and wearing attacks against Warsaw by the Fourth Air Fleet continued.⁵¹ For the impending all-out attack, the First Air Fleet was to transfer three dive-bomber groups to reinforce the forces of the Special Purposes Air Command.⁵² The same directive specifically assigned responsibility for the "uniform conduct of operations in support of the attack on Warsaw," and in actual fact the units of the tactical support group were practically the only air forces committed here in ground attack missions.

51. Appendix Volume: Appendix 56

52. Ibid.

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The Special Purposes Air Command did commit a few squadrons in a "preparatory attack on Warsaw" but otherwise withheld its forces in order to have the largest possible stocks of fuel and bombs available for the impending main attack on 25 September. No information is available concerning the activities of the First Air Fleet on this day.

The decisive attacks against Warsaw were executed in the 27-27 September period. All directives from the Commander in Chief of the Luftwaffe and all detail orders from the two air fleets for these three days are missing, so that only very little reliable source material is available for the following account.⁵³ However, this lack of authentic documents does not appear too serious, since it is possible nevertheless to present a complete

53. In particular see Footnote 40, above: Fliegerfuehrer z.b.V.

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presentation of the actual course of events, and since nothing happened on these three days which could change any of the important lessons hitherto learned in the operational, tactical, and technical fields.

CHRONOLOGICAL ACCOUNT OF THE LAST DAYS OF THE CAMPAIGN

25 September. Major attack against Warsaw by 1 150 aircraft.

26 September. Breathing space for Warsaw, where pamphlets again were dropped calling on the fortress to surrender. 450 aircraft attack Modlin.

27 September. Warsaw Fortress capitulates unconditionally. Modlin again attacked by 550 aircraft whereupon Modlin Fortress capitulates.

In detail the last three days of battle for Warsaw and Modlin present the following picture:

25 September The weather was favorable on the main day of the attack during the early hours. In the early morning the cloud ceiling was around 6 600 feet up, and the rest of the day there was clear autumn weather. The Army artillery forces adjusted their fire between 0600 and 0800. At 0800 the units of the Special Purposes Air Command commenced their continuous attacks against the city and the fortress. Since approximately

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13 percent of all bombs dropped were incendiaries, the fires which resulted caused such dense clouds of smoke that it was impossible to identify any detail in the town either by air or ground observation. In addition, the impromotu measures adopted in committing the transport planes in bombing missions resulted in extremely inaccurate bomb aiming and excessive scattering of the bombe, which also had an adverse effect on the friendly troops. The bombing methods used were worse than primitive: On each of the approximately 30 Ju-52 transport planes involved, the entire cargo space was filled completely with incendiary bombs, which two men on each plane shovelled out of the doors with ordinary potato shovels. Most of the bombs thus dropped were blown off the target by the strong east wind and landed in the terrain northwest of the town, where some of them unfortunately struck the German holding forces in position there, causing casualties.

The difficulties resulting for the Army artillery from the smoke caused by the incendiary bombs and the few instances in which German troops were bombed by mistake led in the last few days to disagreements between the Army and the Luftwaffe, particularly so between General von Blaskowitz, Commanding General, Eighth Army, and the Special Purposes Air Command. These controversies finally reached such proportions that Hitler was forced

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to take personal action in the matter. At the joint Army-Luftwaffe advanced command post on the Warsaw-Okecie airfield he decided broadly that the Luftwaffe was to continue operating as heretofore. The Luftwaffe nevertheless did everything possible to so commit its forces that planned and aimed bombing remained possible and target areas could be clearly defined for artillery and air attack. However, these efforts again proved fruitless, since the smoke clouds over Warsaw had meanwhile reached a height of 18 000 feet and completely obscured everything.

On this day of combat air units flew 1 150 missions, dropping a total of 560 tons of explosive and 72 tons of incendiary bombs. German losses in these attacks totalled 3 bombers (2 Ju-87 and 1 Ju-52) shot down by medium caliber Polish antiaircraft guns. In the night which followed the fires burning in all quarters of Warsaw produced a glow which could be seen from afar.

26 September. In the early morning activities were restricted to reconnaissance over the fortresses of Warsaw and Modlin. Apparently the Special Purposes Air Command had received direct orders from the Commander in Chief of the Luftwaffe that air forces on this day were to operate against Warsaw only at the express request of the Army, namely, the Eighty Army. No such request was received, however, for which reason the command on its own ini-

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initiative committed 450 aircraft in attacks against the fortress of Modlin. Only one bomber squadron flew over Warsaw dropping leaflets again calling for surrender. On this second last day of the battle only a few light and medium caliber antiaircraft guns within the fortress continued firing.

The ground attack by the Eighth Army not only failed to penetrate into the city but by evening even resulted in a partial retirement of the forward positions hitherto held. Only a few fires were still smoldering in Warsaw, while the heavens glowed red over Modlin.

27 September. In spite of repeated demands to surrender on the previous day, Warsaw continued to hold out, for which reason the bulk of all tactical support air forces again were committed against the city and fortress in continuous attacks designed to wear down the defending forces. However, the order to attack was revoked in time when a messenger arrived in the morning under a white flag to negotiate a surrender.

From then on the bulk of all air forces were committed against Modlin, with special concentration on the suburb Nowy Dvor. The attacks were carried out by 550 aircraft and were directed in particular against the Polish antiaircraft artillery forces, which were still resisting tenaciously, and which on the last day of

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the battle still brought down one Ju-87 and one Hs-123. The German planes attacked singly and continued until after nightfall. Then, when it became known that a messenger under the white flag also was expected from Modlin, the last bomb to be dropped in Poland landed at midnight.⁵⁴

SUMMARY AND EVALUATION

The closely linked reciprocal effects of Army and Luftwaffe operations were particularly obvious during the last phase of the battle for Modlin. As a genuine strategic target Warsaw had been of

54. All in all 318 tons of bombs were dropped on Modlin on 26 and 27 September. See Der Polenfeldzug by the 8th (Military Science Branch, Luftwaffe General Staff, Volume 2, Introduction, p. III Karlsruhe Document Collection.

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particular significance only during the first few days of the campaign. Strictly speaking it had only been a really important target during German counter-air operations on 1 and 2 September, in a more general sense it remained important until approximately 6 September, including the period of air operations against the Polish rail and general communications network in direct support of German operations on the ground.

Approximately from 7 September on right up to the end Warsaw was a tactical target for air attack. First, the city was drawn into the scope of the "decisive battle" when it became necessary in the interests of Army operations to intercept Polish troop movements through the city. From 20 September on, however, Warsaw assumed the characteristics of a fortress after the Polish military command had decided to defend the city and after the original garrison had been strengthened considerably by the retreating remnants of the Polish western armies defeated at Kutno. The Luftwaffe thus found itself forced to carry out a mission for which it originally had not been intended. It might be said to have assumed the role of heavy siege artillery, supporting the field artillery of the Army and closely cooperating with it in delivering fire to prepare the fortress for the infantry attack.

In view of this new mission it was quite logical for the

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Luftwaffe High Command to employ the tactical support forces of the Special Purposes Air Command as what was called vertical artillery, this being the only possibility in the confusing ground situation to attack decisively important military targets within the fortress. This fact also serves to prove that from now on Warsaw was exclusively a tactical target for air attack, and that during the final battles for Warsaw the Luftwaffe had a purely tactical mission, that of supporting the ground artillery of the Army.

Nothing is known concerning the conclusions drawn and the lessons learned by the Luftwaffe High Command from this last phase of the tactical employment of air power in the Polish campaign. Considering what happened at the time in retrospect, however, no relation is evident between these events and the later employment of German air power in World War II in any of the other theaters of operations. It is possible and even probable that the experience gained at Warsaw influenced the mission assignments, the allocation of forces, and the tactics employed in the large-scale German air attack against military objectives in the outskirts of Paris in May 1940.

In contrast, it is clearly obvious that the experience of Warsaw in no way influenced later operations against Britain, because

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because the circumstances here were completely different. There was no opportunity during the tactical employment of relatively small tactical support forces against Warsaw to gain any decisively important experience that could have been applied profitably in conducting the operations of long-range bombers against Britain, which represented the only case of true strategic warfare conducted by the Luftwaffe in World War II.

The only command principles which might be deduced from the Warsaw operations can be briefly stated as follows: Operations against a target of air attack which is clearly circumscribed from the outset, as was the case with Warsaw, can

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only be conducted profitably if controlled by one commander alone. The Commander-in-Chief of the Luftwaffe realized this, although only at a late juncture, and assigned the Special Purposes Air Command sole responsibility for the conduct of uniform air operations against the city. The previous division of the target area between three air commands (First and Fourth Air Fleets and the Special Purposes Air Command) necessarily had produced confusion and overlapping. From the outset Warsaw was the operational objective of the southern army group and thus of the Fourth Air Fleet, so that it should have been in the combat and reconnaissance zone of this air fleet. In actual fact, the Fourth Air Fleet also made the biggest contribution toward the elimination of Warsaw. Its actions in this respect are relatively well documented in the present study. Unfortunately, little documentation is available on the role played by the First Air Fleet in the whole campaign, a fact which becomes painfully evident in this study. It is safe to assume that from 14-24 September, the three dive-bomber forces of the First Air Fleet were committed not only in the battle at Kutno, but, at least periodically, also against targets in Warsaw west of the Vistula River.

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The question also remains open whether units of the First Air Fleet participated in action to subdue the fortress of Modlin. The main part of the fortress area, north of the Vistula River, was unmistakably within the zone of operations of the air fleet, which from the outset had the mission of supporting elements of the Third Army attacking from the north.

The tactical experience gained by the command produced no important new lessons. The tactical support forces continued to employ their tried and tested tactics, which became more simple and less risky as the decimation of the Polish fighters still in Warsaw proceeded. The last remaining Polish fighters still in Warsaw during the last few days of the battle avoided approaching too close to the German dive-bomber formations, which usually attacked without fighter escorts. The only real danger to which attacking German aircraft were still exposed at medium and low altitudes was the fire of Polish antiaircraft guns--as long as their ammunition lasted. However, even these guns were unable to prevent the German units from operating with the calmness, orderliness, and aiming precision customary in peacetimes.

The long-range bomber forces of both air fleets were

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committed repeatedly, although not in closed formation, against Warsaw. Their participation in action against the fortress lessened with their gradual transfer to the Western Theater. No evidence whatever is available as to whether any bomber units at all were still employed during the final phase of the campaign, from 23-27 September. Prior to that, bombers of the Fourth Air Fleet, particularly the 77th Bomber Wing, had been committed against Warsaw, and the First Air Fleet had committed elements operating from Eastern Prussia. The bulk of the bomber forces under the First Air Fleet were committed in road and rail interdiction missions east of Warsaw far in the Polish rear.⁵⁵

Group and squadron size bomber attacks against Warsaw revealed at an early stage that, because of the wide dispersion of the bombs, point targets, such as bridges, power stations, and highways could not be attacked profitably by such methods. It is only in the light of this practical

55. Chapter 4, 1, above.

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experience that one can understand the order given by the Commander in Chief of the Luftwaffe to attack the march routes through Warsaw with incendiary bombs, since it was only through the widespread effects of such bombing that a road of strategic importance could be closed with any degree of certainty.

Finally, there remains the problem of international law as applied to the air attacks against Warsaw. Throughout the entire Polish campaign, including counter-air action, attacks to interdict troop movements on roads and bridges, and attacks against important installations for defense of Warsaw, the orders and directives issued by the Commander in Chief of the Luftwaffe clearly stated that only targets of military importance were to be bomb-

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ed. The present author vividly remembers the tenor of the orders given by the Commander in Chief of the Luftwaffe and by the First Air Fleet at the time and can confirm that meticulous care was exercised to commit units at all time against unmistakably important military targets. Further proof is available ^{in the} orders and directives quoted here and included in the Appendix Volume, as well as in the references by the Commander in Chief of the Luftwaffe to action to be taken against specific targets

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designated by numbers, and from the outset only targets of
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military or economic importance were so designated. Sur-
prisingly enough, these concrete proofs are substantiated
overwhelmingly by abstract evidence. For example: the re-
taliatory attack planned by the Commander in Chief of the
Luftwaffe for 11 September was not carried out, and General
von Richthofen's recommendation of 22 September calling for
a terrorizing and annihilating attack against the city and
population of Warsaw was not approved.

56. Karlsruhe Document Collection.

57. The way in which such targets were designated in maps
is shown in Appendix 57 in the Appendix Volume (2 maps:
M. St. Warszary; Modlin and Warsaw 25 (26) Sep 39.

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That the requirements of international law were observed meticulously and carefully not only by the higher levels of Luftwaffe command but also by unit commanders in the field is proved, among other evidence, by a written statement by Colonel Seybold, then in command of the 77th Bomber Wing, the authenticity of which has since been confirmed orally. Dated 24 May 1953 the statement avers that the wing commander was relieved of his command by the Chief of the Special Purposes Air Command for the following reason:

In an afternoon attack against Warsaw on 11 September 1939 by his wing, on his own authority and in agreement with his sub-commanders, he changed an order issued by Commanding General Freiherr von Richtkofen-- under whose command he had been since 10 September 1939--according to which the wing was to bomb the ghetto area of Warsaw, and diverted the group designated for this attack to targets of military importance in Warsaw.

For practical purposes it can be said that any discussion of the campaign in Poland in the light of international law is superfluous in view of the later developments in the overall conduct of the war. The very fact that the

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Allies during the "War Crimes Trials" at Nuremberg made no charges concerning the air attacks against Warsaw can be accepted as of conclusive importance in any appraisal of this highly significant problem in the light of international law. The only obvious reason why no such charge was made is that there is irrefutable evidence of the opposing side having committed a flagrant breach of international law by bombing Dresden, an open city, at the end of the war, an attack which resulted in innumerable losses among the population of Dresden and in the complete destruction of the city.

The official German opinion concerning Warsaw is most clearly illustrated by the statements of Field Marshal Kesselring, the last responsible Luftwaffe commander, at Nuremberg.⁵⁸ This opinion is supported fully and unreservedly by a statement of the French Air Attaché, General Armengaud,⁵⁹ as follows:

I must stress the fact that the Luftwaffe acted in accordance with the laws of warfare. It attacked only military targets and if civilians were killed or wounded this was only because they were near these military targets. It is necessary that this should be known in France and Britain, so that no retaliatory ac-

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action is taken--that no cause exists for reprisals--so that we ourselves do not unleash total air warfare.

Coming from an official French source this evidence is all the more telling and important because it is by the famous French aviator, later a general, highly honored in France as the "Old Eagle," whose writings on military aviation are widely read at home and abroad, and who personally experienced the siege of Warsaw on the Polish side.

58. Antlicher Bericht ueber der Prozess in Nuernberg, Vol. IX, pp. 199-200; Karlsruhe Document Collection.

59. Ibid, also p. 759.

The author of a special study on this subject in the August 1956 edition of the Wehrwissenschaftliche Rundschau comes to the same conclusion.⁶⁰ In that study "Case Warsaw" and "Case Rotterdam" --during the 1940 campaign in the west --are regarded as "preliminary" to the air battle for Britain with its heavy bombings of London. And now, eleven years after the end of World War II, the time is ripe for a conclusive answer to the important question: of whether or not the large-scale bombings of Warsaw were justifiable by international law. A discussion of the legal basis of this question is therefore unavoidable at this point. Here, two facts of decisive importance evolve.

The first irrefutable fact is that, from 16 September on, the Polish Government and the Polish military command were called upon repeatedly to surrender within twelve hours. In each of these demands they were warned that, failing capitulation, the German command would order the attack against Warsaw as a defended city and that then the Polish Government, because of its senseless resistance, would be solely responsible for all losses and other consequences. At the same time the civilian population was called upon to leave Warsaw by the normal routes of exit.^{61.}

It was only after repeated fruitless ultimatums that the German

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air attacks previously described commenced. These attacks were finally extended to include the entire city area with the object of expediting to the utmost possible degree the military occupation by ground forces. In spite of the exceedingly heavy attacks carried out, losses among the Polish civilian population remained relatively small. In contrast, the attacks resulted in exceedingly heavy material damage which, in the final essence, actually brought about the early capitulation of the city. In this way the Polish

60. Karlsruhe and Darmstadt, 6. Jahrgang, Aug 56, Vol 8, pp. 445-6, Dr. jur. E. Spetzler: Der Weg zur Luftschlacht um England in Kriegerechtlicher Bedeutung.

61. OKW reports 18-19 Sep 39; Karlsruhe Document Collection.

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civilian population was spared the sufferings of a protracted siege, in contrast with what had happened in former major wars, for example in the case of Paris in 1870-71.⁶²

The second significant fact is that the German air attacks were in support of the Army, namely, in support of the ground forces besieging the city, and were executed in action integrated with the operations of those forces. This proves irrefutably that the German air attacks were in consonance with the terms of the Hague Rules for Land Warfare, where Article 25 expressly states that the use of all weapons, and thus of air power just as well as artillery, is permissible in such cases, since Warsaw was a defended city and had to be occupied. Article 27 of the Rules for Land Warfare states only one restriction in respect to the selection of targets, namely, that the shelling of installations such as hospitals is not permissible. With this single exception, therefore, the whole of Warsaw could have been attacked, but that is not what happened. Furthermore, no claims have been raised that any prohibited installations were struck, which would easily have happened because the smoke generated by the fires caused by the bombings was so dense that, as previously stated,⁶³ precise aiming was

62. See also Liddel Hart, *The Revolution of Warfare*, London 1946, pp. 72 ff.

63. For other reasons see *Wehrwissenschaftliche Rundschau*, August 1956.

The final conclusions to be drawn from this examination thus in every respect confirm the statement by the last French military attaché in Warsaw⁶⁴ that the Luftwaffe in the case of Warsaw in every way acted in consonance with the rules of warfare internationally valid at the time.

Finally, there remains the question of the part played by the Luftwaffe in subduing the two fortresses of Warsaw and Modlin and the contribution it made in this final blow which ended the Polish campaign. One can understand that both branches, the Army and the Luftwaffe, each claim in their way to have brought about the decision. However, there can be no doubt that the continuous air attacks directed against targets around and in Warsaw from the first day of combat on allowed the military garrison and the population no respite and thereby progressively wore down their spirit. Another important factor was the daily casualties, damage, and destruction caused by these attacks. Thus, the Polish will to offer serious resistance was already badly shaken long before the final battle for this main Polish fortress commenced in the air and on the ground. The German Army did little to bring about this undermining of the Polish morale.

64. See p. 71, above.

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apart from this, however, the battle for the two fortresses in the last few days of the campaign also was fought with only the Luftwaffe achieving really decisive results. Both in volume and in results achieved the contribution by the Army artillery forces was small compared with that of the Luftwaffe, which systematically destroyed all targets essential for the maintenance of the defense. That the Polish command decided to capitulate before the second all-out German air attack was launched was indubitably a direct result of the air attack on 25 September and of the German threat to repeat the attack on the same scale. The Luftwaffe had finally deprived the Polish garrison of all essentials for a successful defense of any duration.

The cumulative effects of all air attacks against Warsaw can be stated as follows: In addition to the effect on troop morale and the considerable damage to buildings, the attacks resulted in the destruction or paralyzation of practically all vital establishments and of the supply installations essentially required by the garrison. Destruction of the canalization and sewage system made existence in the inner city, and particularly in the air raid shelters, exceedingly difficult. The destruction of all water supply works

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deprived the garrison and the civilian population of water, the most elementary requirement.

It can be assumed without doubt that the German Army would have succeeded in taking Warsaw alone, but this would have required a great expenditure of effort and much time, and would have resulted in heavy casualties.

Credit is due to the command and troops of the Luftwaffe alone that this last stronghold of the Polish State and of the Polish will to resist collapsed so soon after so short a war; that the capture and occupation of this large and well defended main Polish fortress by ground

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troops could take place at practically no further cost in casualties; and, finally, that a politically conditioned requirement of the German Supreme Command, made necessary by the new coalition war, could be accomplished in the military field prior to the set deadline. It therefore appears neither wrong nor presumptuous to conclude this chapter with the statement that the fall of the Warsaw and Modlin fortresses was primarily due to the Luftwaffe and represent an indisputable major victory by the Luftwaffe.

CHAPTER 6

THE RECIPROCAL IMPACT OF THE WESTERN AND EASTERN
THEATERS

In the second half of September a noticeable shift in the concentration of Army and Luftwaffe forces took place from east to west. The massed air attacks against the two Polish fortresses, Warsaw and Modlin, towards the end of September could give the impression that both air fleets committed in the east once again had concentrated all of their units for a final decisive blow in Poland. However, this impression would be false. From 24 September on the only air forces available in the east were as follows:

First Air Fleet: 1 bomber group, 1 twin-engine fighter group (uncertain), 1 single-engine fighter group, 1 reconnaissance squadron;

Fourth Air Fleet: 2 dive-bomber wings controlling 8 dive-bomber and 1 ground-attack groups, 1 bomber wing controlling 3 groups, 1 reconnaissance squadron.

Practically speaking, the First Air Fleet thus had ceased to exist as a power factor, although it still had a large air fleet headquarters staff and the staff of the Luftwaffe Command Eastern Prussia. The Fourth Air Fleet also could no longer be considered a full strength command, since the Special Purposes Air Command had been assigned

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responsibility for the conduct of operations against Warsaw. All other offensive type air units, except those left with the two air fleets as described above, had been withdrawn according to plan for transfer to the west, commencing on 25 September.

However, this sudden reduction of combat strength in the east just prior to the long intended blow against the fortified core of Poland was only the closing phase of a systematic movement of bomber forces to the west which had been in process for a number of days. The transfer of bomber units commenced as early as on 12 September, at a time when air and ground operations were still in full swing in Poland, and plans existed then already for more transfers to the west. These latter were delayed by the unexpected crisis which developed in the battle at Kutno. Immediately after the battle, on 19 and 20 September three air division headquarters with the bulk of their forces were transferred to the west besides a number of dive-bomber, reconnaissance, and fighter units. While preparations were proceeding for the final attack against Warsaw and Modlin all other units, except those listed above, were transferred, so that the only force available for the final operations against the Polish fortresses was the Special Purposes Air Command with

its tactical support units.

Owing to the lack of appropriate documents, the fundamental reasons for this remarkable development cannot be stated with certainty. In particular, there is no possibility for an insight into the politico-military situation as a whole and the expected developments in the West as interpreted by the Commander in Chief of the Luftwaffe at the time. Nevertheless, the following presentation can be offered with a high degree of probability as to its accuracy:

The significantly early transfer of emphasis from east to west was not due to any belief that tactical air forces no longer were required in Poland. Rather, the uncertainty concerning the overall situation in the west compelled the German command to shift power from east to west as a precautionary measure and the only possibility in the ruling circumstances was to transfer air power. The possibility had to be taken into consideration that the Western Allies might launch air attacks against German territory, possibly combined with British naval action. It was unavoidably essential to provide against such eventualities and, so far as the operational Luftwaffe was concerned, conditions had to be created in which counterattacks by air could be

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ordered if necessary. The possibility exists that the undoubtedly grave decision taken by the German Supreme Command to transfer large air forces to the west was facilitated by an entirely new factor there: the restriction of the German area of operations there by the actual movement of the Soviet Army into Poland on 17 September. It also is possible that internal circumstances within the Luftwaffe may have played a considerable role.

From the first day of combat the German air units had been in action almost without a break, and it had become categorically necessary to rehabilitate them in personnel and materiel before committing them in new missions. For this reason they were all first transferred to their peacetime bases. There, however, they immediately came under the command of the Second and Third Air Fleets so that they could be moved into action speedily in accordance with future developments in the overall situation in the west. There is still another important factor which may have played a role: a number of the air units withdrawn from the field had been listed to receive new types of aircraft when the war began, and this reequipping was to be carried out now as speedily as possible.

Taking all these factors into consideration, together

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with the fact that the Luftwaffe High Command could easily foresee at the beginning of the third decade of September that air power would be required only for action against Warsaw and Modlin and only for a limited period one can understand how it was possible for the Commander in Chief already on 22 September to issue long-range orders regulating the allocation of the entire Luftwaffe between east and west after the close of the Polish campaign. 65

According to this order the forces to remain in the east were as follows:

First Air Fleet zone: 1st Reconnaissance Squadron,
120th Group,
1st Bomber Group, 2d Bomber Wing.

Fourth Air Fleet zone: 1st Reconnaissance Squadron,
124th Group,
77th Bomber Wing.

The above four air units were to be held available against the eventuality of police action becoming necessary in those territories of the former Polish State which remained under German administration. The bomber units were to be reequipped with Do-17-Z aircraft.

65. Ob. d. L. Fuehrungsstab, Ia, # 5393/39, geh. Kds.-Chefsache, 22 Sep 39; See also Appendix 58.

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Only three fighter groups were to be left for the
air defense of Berlin and Central Germany. All other forces
were assigned to the Second and Third Air Fleets. ⁶⁶

66. For allocation see order quoted in Footnote 65. The Special Purposes Air Command was transferred to the Zone of Interior on 20 September. Plans provided for its later assignment in the command zone of the Third Air Fleet.

CHAPTER 7

ACTION BY THE SOVIET UNION AND ITS REPERCUSSIONS
ON THE LUFTWAFFE

On 17 September the Red Army moved westward across the eastern frontiers of Poland; in agreement with the German Government the Soviet Union thus intervened in the Polish-German conflict. The effects on the German Army were incalculable, since large occupied areas had to be evacuated at short notice. The effects on the Luftwaffe were less noticeable. Only very few airfields in use by the operational Luftwaffe had to be evacuated. Most of the bomber forces were based on airfields in Silesia and Eastern Prussia, the dive-bombers on fields west of the Vistula River, most reconnaissance units were still operating from their original airfields, and only weak fighter forces were east of the Vistula. In contrast, the evacuation orders seriously affected the Army tactical air reconnaissance squadrons, which had followed their armies in the northern and southern areas.

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The demarkation line agreed upon on 22 September was generally along the San, Vistula, and Narev Rivers.

The eastward movement of the Russian line in terms of

67. See both maps in Appendix Volume: Appendixes 59 and 60.

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new agreements dated 28 September no longer affected the operational Luftwaffe, since the bulk of its forces had already transferred or were in the last stages of transfer to the west. The most important measures required by the new situation can be explained from available directives, orders, and briefings by the Commander in Chief of the Luftwaffe to the First and Fourth Air Fleets. The first briefing was given by teletype in the night of 16-17 September and came as a complete surprise to both air fleets. It actually was the first information given to the higher level commands concerning the new military and political situation. The first practical result was a considerable narrowing of the areas for reconnaissance and combat operations eastward. The new boundary line for operations was approximately 150 miles west of the eastern frontier of Poland. It is not possible to prove whether, in the few hours of the night remaining after receipt of the teletype message, the commands succeeded in stopping their reconnaissance and combat units in time and redirecting them to new targets or not. The next directive, # 17, was issued on the evening of the first day of the Soviet invasion. It contained orders for 18 September and referred only in the last paragraph to the new situation. This

68. See copy in Appendix Volume; Appendix 61.

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paragraph was worded: "Under all circumstances the demarkation line will be observed by both air fleets. Measures will be taken to insure that units are informed on Soviet types of aircraft."

In another teletype message the Commander in Chief of the Luftwaffe informed the First and Fourth Air Fleets that the future demarkation line would probably be as follows: Skole-Lvov-Jaworow-Jaroslav-San River-Vistula River as far as Nowy Dwor-Narew-Novgorod-Lipitsa-German frontier. This represented a very careful estimate of the demarkation line but moved the eastern boundary for German air operations much farther west. It brought the Soviet occupation area and zone of interest practically up to the outskirts of Warsaw and thereby within range of the ground and air operations in process or impending there.

On 20 September the Commander in Chief of the Luft-
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 waffe informed the air fleets that the advancing Soviets on the same day planned to reach a line approximately the same as that which German aircraft had been ordered not to cross as early as on 17 September. The Luftwaffe was to leave details behind to transfer airfields to the Soviets. This orientation in turn was superseded in less

69. Fuehrungsstab, Ia, # 4696/39, 1548 hours, 18 Sep 39; Karlsruhe Document Collection.

70. Text in Appendix 62, Appendix Volume.

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than twentyfour hours by a new teletype message from the
 71
 Commander in Chief of the Luftwaffe revealing that the Soviets were speeding up their movement, that they intended reaching the Vistula River by 4 October, and that it was an open question to what extent the Luftwaffe would be able to evacuate airfields presently in use at short notice and in time to meet the deadline.

On 21 September the Commander in Chief of the Luftwaffe informed the First and Fourth Air Fleets of the contents of
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 the Russo-German agreement. In addition to the existing horizontal boundary, this message for the first time prescribed vertical restrictions. In the German rearward areas German aircraft were not to exceed an altitude of 1 600 feet. The same restrictions applied to Soviet aircraft.

The compilation of briefings and orders offered here undoubtedly is incomplete, but it does afford some indication regarding to what extent the Luftwaffe in the east was informed on developments and to what extent it was affected by the new developments. At any rate the rapid sequence and the frequent contradictions of the briefings received from the Commander in Chief of the Luftwaffe resulted in difficult tasks for the higher and intermediate levels of

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command in the field. Nonetheless, the commands carried out their tasks without any serious friction developing.

In this unexpectedly changed overall situation it actually turned out to be fortunate that the air fleets had not displaced their bomber forces to airfields farther east, a measure frequently desired by the Commander in Chief of the Luftwaffe. If the requirement had arisen for a speedy evacuation of a properly supplied ground service organization east of the San River-Vistula River line problems would have arisen which probably could not have been solved in time with the transportation space available. No evidence is available as to whether and to what extent contact was established between German and Soviet air forces during the German evacuation.

It would have been only natural if difficulties and friction between the two new partners of the new coalition system, which was so undesirable to most, had developed as a result of this sudden and unwelcome "coalition war."

71. Appendix Volume, Appendix 63.

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But no really serious conflict developed, and the very few irregularities which occurred were all due to the Soviets. Thus, the present writer, then Chief of Staff of the First Air Fleet, while flying towards Brest-Litowsk on an inspection tour on 17 September received a report that a Soviet fighter had attacked a marching German column and inflicted losses. Furthermore, some German air units reported having come under Soviet fighter attack while airborne repeatedly. The German command deliberately refrained from investigating these and similar cases, but it would be wrong not to mention them here. They are of basic importance for an evaluation of the mentality of Germany's later eastern opponent and could occur in any possible future situation.

CHAPTER 8

PLANNING FOR AIRBORNE OPERATIONS

(7th Air Division)

In its operational planning the Luftwaffe High Command was greatly influenced by thoughts of using the paratrooper and air-carried infantry of the 7th Air Division, and from the outset thoughts were entertained of employing these units in the Polish theater. They represented a surprise weapon, to be committed whenever and wherever overall strategic plans called for a swift but locally circumscribed success. Above all, the airborne forces were to be committed primarily in situations of decisive importance for the whole campaign, and then they were to be employed without regard for possible losses. Already in the very first phase of the campaign, as described in Chapter 2 of the present study, it became evident that the highest levels of command still were reluctant to put into effect any serious planning in this field.

For the time being the 7th Air Division was concentrated as a strategic reserve in the Liegnitz area at the direct disposal of the Wehrmacht High Command. The division was included in the mobilization and operational plans of the Luftwaffe by the Commander in Chief of the Luftwaffe, but throughout the campaign he had no authority to commit it.

Authority to commit the division was reserved exclusively to the Wehrmacht High Command. No specific plans for the use of these forces existed at the opening of the campaign. In pre-war preparations first plans had been envisaged of trying out the effectiveness of paratroopers in action integrated with Army operations designed for the sudden seizure of the Vistula River bridge at Dirschau.⁷³

The second tentative plan developed in connection with Army operations on 5 September, when the decision had already been taken to commit the entire division behind the Polish southern flank at Pulawy on the banks of the Vistula River.

Other plans were worked out for airborne operations at Jaroslav and Radom, but these again were not put into effect, just as had been the case with earlier planning. Reasons not easily discernible must have existed for this failure to commit the airborne forces in the Polish campaign. The very fact that all plans were made at short notice reveals that the Supreme Command had faulty concepts concerning the time required for the planning, preparation, and execution of airborne operations in the stage of development reached at that time. The plans, particularly the latter two

73. Part 2, Chapter 1.
74. Ibid, Chapter 6.

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mentioned above, also revealed clearly that those responsible were accustomed still to think exclusively in terms of tactical scope. This means that they still thought of using airborne troops only in brief, small-area operations in direct support of ground units, and that ^{they} had not yet grasped the significance of genuine operational commitments of large forces far in the enemy rear.

Be that as it may, the fact is clearly established that the basic causes behind cooperation between the three highest levels of command--the Wehrmacht, Army, and Luftwaffe High Commands--will remain obscure, since documentary evidence on discussions, requests, and directives are completely lacking. Inferences therefore can be drawn only from the visible results. The possibility also exists that the final decision was retarded by exclusively psychological considerations, namely by the reluctance to accept responsibility for the first commitment of the airborne troops in actual combat. This view is supported chiefly by General (Generaloberst) Student, who at the time commanded the 7th Air Division, in a letter to the present author.⁷⁵

In any case, the airborne forces, which were to win costly victories later in World War II, were not committed in the Polish campaign.

⁷⁵. In the possession of the present author.

CHAPTER 9

GERMAN ANTIAIRCRAFT ARTILLERY IN GROUND ACTION

Throughout the Polish campaign the German antiaircraft units had no airborne targets. Hostile bomber forces, which are the main and most profitable targets for any antiaircraft artillery force, made no appearance. Polish fighters and reconnaissance planes appeared only singly and in isolated cases and more and more rarely as the campaign progressed. Within the first few days of the campaign the German air defense forces, the fighter and AAA arms, thus found that they were no longer required for their assigned targets.

The natural result was that they turned their attention to other missions. Fighters flew low-level attacks against the Polish airfields still in existence, against Polish troops in movement, and similar other targets, or assumed the role of ground-attack aircraft. The bulk of the AAA forces were not committed in action, and at a comparatively early stage most of them were transferred to the West to protect the Zone of Interior against the expected attacks by British and French air forces. Things were different only in one area, in the center. Here, the exigencies of the critical ground situation brought about

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the necessity to commit AAA forces in ground combat to reinforce the ground artillery, a mission at which they were to be employed only in an emergency.

The thought arose at the time of from now on training certain AAA units specifically for ground combat and committing them, as complete Luftwaffe units, to support Army action in critical combat areas. The establishment of the two Flak corps for participation in the 1940 campaign in the west was a direct result of the experience gained in the area of the German main attack army in the battle of envelopment at Radom. The generally known operations of the 1st Battalion of the 22d AAA Regiment at Ilza on 8 and 9 September gave real impetus to the new idea and resulted in its development and realization, which produced at the time unforeseen organizational and tactical results.

As was the case with most Luftwaffe antiaircraft artillery battalions, the 2d Battalion of the 22d AAA Regiment was inadequately trained for ground combat and tactical cooperation with Army forces. Some experience had been gained in the Spanish Civil War, where antiaircraft artillery units for the first time had been employed systematically in ground combat, but what had been learned there was not as yet generally known to the troops.

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The battle of envelopment at Radom developed after the break through and pursuit operations of the first few days. During these operations the Polish forces threatened with envelopment launched mass attacks in their effort to break through to the Vistula River. On 8 September the 1st Battalion, 22d AAA Regiment, attached to the 3d Light Infantry Division, commenced its advance with the other division forces assigned to form a strong regimental combat team. The team advanced across the Kamienna River, driving in the general direction of Radom to cut off the Polish retreat. The battalion was almost at the end of the advancing German column.

At Ilza, south of Radom, the column encountered strong Polish forces, which were receiving reinforcements continuously. The advancing German forces were halted by the Polish superiority in numbers and a critical situation developed, with the Polish forces attacking on all sides. In this situation the commander of the regimental combat team ordered units of the antiaircraft battalion to move into the first line and take the attacking Poles under direct fire. Initially, only the light batteries were committed, but they were followed soon by the heavy batteries and finally by the entire battalion. Fire from the

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antiaircraft guns markedly relieved the strain on the German lines and the disorderly retreat which had set in in some of the German army units was soon stopped. After expending their artillery ammunition, the guns crews of the battalion defended themselves with carbines and pistols against the heavily superior Polish forces attempting to break through the line.

The battle continued throughout the night and the light antiaircraft searchlights were used to light up the outpost area and take action against Polish preparations for renewed attack. Completely isolated, the battalion finally had to defend itself in close combat against the Polish infantry. Owing to the heavy casualties suffered and to inadequate ammunition supplies it broke contact with the enemy on 9 September and retired to reestablish contact with German ground forces without the loss of a single gun.

76. Detailed report on the 1st Battalion of the 22d AAA Regiment in Karlsruhe Document Collection.

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The tactical results achieved by the antiaircraft battalion in this ground action, which took place under orders issued because of the crucial situation, were that pressure against the German infantry was relieved. This tactical success had operational repercussions, since the determined stand by the battalion prevented the Polish breakout to the Vistula River and thereby made it possible to bring the already opened battle at Radom to a successful conclusion.

The experience gained in this individual action was to produce highly valuable results in the future. In particular it led to the following basic deductions: Any antiaircraft artillery unit might find itself compelled to participate in ground action. Therefore the troops involved must understand and master the basic tactical principles of ground warfare. Units must be equipped properly for such action, in particular with protective shields and small arms. The high mobility and fire power of such units enabled them to take massive and decisive action in ground combat. In certain situations of ground combat a proper combination of light and heavy antiaircraft guns, because of their high muzzle velocity and the high penetration power of the heavy calibers, could be used more effectively

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against ground targets than normal artillery pieces.

The antiaircraft artillery units allocated to the Army to some extent remained a foreign body, lacking real integration with the other ground forces, and experience in Poland showed that their fire power was not exploited if they were restricted exclusively to the mission of air defense.

The final conclusion drawn from such and similar trains of thought was that the antiaircraft artillery should be so organized, trained, and assigned that it could accomplish simultaneously both missions, that of ground combat and that of air defense, and should remain under the control of the Luftwaffe. Another decision taken was to consolidate the units in large forces instead of allocating them by battalion. The logical planning which followed resulted in the organization of the two AAA corps which participated in the 1940 campaign in the west.

The Special Purposes Air Command was also assigned two antiaircraft artillery battalions, the 1st Battalion, 23d AAA Regiment, and the 1st Battalion, 3d AAA Regiment, both of which were given the mission of airfield defense. Not far from Ilza the command established headquarters on Farm Sucha, 12 miles north of Radom. Numerous Polish forces

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out of contact with their parent units but still capable of combat were known to be in the surrounding forests, for which reason the 3d Battalion of the 1st Paratrooper Regiment was moved into the Sucha area on 13 September to protect the command post. In the critical situations which developed during the mopping up operations which then followed, it became necessary to employ the 1st Battalion, 23d AAA Regiment in ground combat.

Sucha was in the direct route by which a Polish infantry brigade was withdrawing from the west, and in the night of 12-13 September the brigade actually passed through Farm Sucha, on which the command post was situated with only a very small holding force. On the following day the troops were ordered to clean out the surrounding forests, and the 1st Battalion, 23d AAA Regiment received instructions to provide supporting fire for the paratroopers and ground service personnel employed for the purpose. In the following night the battalion went into action for the first time. Its searchlights lit up the Polish forces, marching in almost unbroken columns, turning them into easy targets for the light gun batteries.

Apart from these two cases, at Ilza and at Sucha, no information is available on the employment of antiaircraft artillery forces in ground combat.

CHAPTER 10

THE AIR SIGNAL CORPS
Operational Experience

In planning for signal communications it is necessary to take into considerations long periods of time and wide areas, all based on the overall long-range plan of operations. The peacetime origin, missions, and organization of the Air Signal Corps have been discussed in their more important points in Chapter 1. ⁷⁷ The experience gained in the operations of the signal services throughout the Polish campaign--from 1 September to the capitulation and occupation of the two Polish fortresses of Warsaw and Modlin, can be summarized as follows.

Contrary to the original plans, military operations in the Polish campaign, so far as the operational Luftwaffe was concerned, resulted in a complete separation from the signal communications system in the Zone of Interior. In addition, the quick shifts of main emphasis over long distances necessitated changed and quickly effected dispositions in the signal services.

Here, one must bear in mind the shift of emphasis in First Air Fleet operations to Eastern Prussia and the

⁷⁷. Part 1, Chapter 5.

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simultaneous shift in emphasis from the First to the Fourth Air Fleet, together with the fact that the battle at Kutno seriously interfered with the basic overall plan of operations. Finally, the entire Luftwaffe signal communications system was influenced strongly by the far-flung and rapid envelopment movements of the Army from north and south east of the Vistula River, which produced completely new tasks for the signal corps. The conduct of air operations at all levels was based exclusively on the command and operational radio and wire communications network which the Air Signal Corps had to organize and improvise in flexible adaptation to the current situation. One might say that all elements and functions of the Luftwaffe command were clamped together by the signal communications network

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of the Air Signal Corps. A study has been prepared by First Lieutenant Karl Klee of the Air Signal Corps on the overall evaluation of experience gathered by the Air Signal Corps.

78. See Appendix 65 for map of trunk lines.

79. Karlsruhe Document Collection: Die Auswertung der Einsatzerfahrungen der Luftnachrichtentruppe im Polenfeldzug.

CHAPTER 11

OPERATIONS OF THE LUFTWAFFE UNITS ALLOCATED TO THE
ARMY UNDER THE LUFTWAFFE GENERAL WITH THE COMMANDER
IN CHIEF OF THE ARMY

Army Group South: Tactical Support Air

Command 14

This is a subject completely separate from the operational Luftwaffe in respect to organization and chains of command. A separate treatment of the subject therefore is essential insofar as it completes and rounds out the presentation of the activities of the operational Luftwaffe in the foregoing chapters. Unfortunately, this presentation must remain restricted to only one area of the Polish Theater, the zone of operations of Tactical Air Support Command 14 (with the Fourteenth Army) and its units, since other sources are lacking. In spite of the relatively small area involved--which is limited to the zone of only one army--, however, what is said here can be accepted as valid for all tactical air support commands in the east. The area of operations for units of the Tactical Air Support Command 14, which will be referred to here as the army air units, was identical with the Fourth Air Fleet zone of operations, and particularly with that of the 2d Air

81. See contribution by General der Flak Karl Drum: Der Einsatz der dem Heer taktisch unterstellten Verbände der Luftwaffe (General der Luftwaffe beim Oberbefehlshaber des Heeres) Bereich der Heeresgruppe Sued: Koluft 14, in Karlsruher Document Collection.

Division in the extreme south. It has not been possible to give here a comprehensive account of the conduct of operations by the Fourth Air Fleet army air forces, but the details taken from records of Tactical Air Support Command 14 at least serve to supplement to some extent the presentation of 2d Air Division operations given in broad outline in Chapter 4. The following four points deserve special mention.

1. Inadvertent Attacks against Friendly Troops. Even in the later stages of the campaign the German ground forces reported isolated incidents in which they had come under attack by German aircraft. Such mistakes can occur and their only explanation is inadequate cooperation between the air division and army commands. The bomber forces were still taking off from their original bases in Silesia, with the exception of one bomber group moved at a fairly late stage to Krakau. The approach routes to targets attacked in direct support missions grew longer day by day in proportion to the ground gained by the Fourteenth Army in its drive on Lvov and farther northeast. Similarly, the signal communications system was becoming more and more complicated. Without signal communications, however, even the best air liaison teams with army units were powerless, even if they were committed as systematically and wisely as was the case in the zone of the

First Air Fleet.

Actually, contact between the Luftwaffe and the Army in the south appears to have been limited mainly to cooperation at the top level. That this was so seems apparent from a letter by the former commanding general of the 2d Air Division, Generaloberst Brum Loerzer, to the present author, in which a passage reads: "Cooperation with the Army consisted merely in close contact with army group headquarters. " What would have been necessary was very close contact between the smallest air units and the infantry on line.

Realizing this necessity, the Fourteenth Army on 16 September requested that it should be given direct command over a bomber group. Although this request was sound, the existing circumstances precluded its fulfillment.

However, the few incidents which did occur in which units of the operational Luftwaffe took German troops under fire in no way justified the severe countermeasures ordered by the commanding general of the Fourteenth Army. ⁸¹ Instead, the ground forces themselves should have done everything possible to enable their supporting air units to identify them without chance of mistake, as had been done successfully on all fronts as early as in World War I. Unfortunately, the effects of combat training given at that time had been

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lost completely in twenty years of peace.

2. Polish Air Attacks against Fourteenth Army Forces.

Records report four attacks by Polish aircraft, one each on 10, 11, 12, and 16 September. The last of these is described as a heavy bombing attack. The lack of detailed documents makes it impossible to determine the actual size of these Polish air attacks, but experience shows that the troops as

81. Karlsruhe Document Collection.

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a rule in all combat situations gave greatly exaggerated reports of any air attack. This is all the more likely in the Polish campaign, since the German ground forces after the resounding success of German counter-air operations in the first few days at no time were exposed to attack by Polish air forces. One can understand that their surprise must have been all the greater when Polish aircraft operating singly suddenly attacked them with bombs and weapons fire in the second half of September. Such isolated incidents are unavoidable even if absolute air supremacy has been established. For this reason all troops from the outset, and even under peace conditions, must receive training in unit air defense action.

3. Air Transport of Supplies. The rapid eastward and southward advance of the German armies in Poland resulted in interruptions in the normal surface movement of supplies for the troops. It is only natural, therefore, that the ground forces already at an early stage requested the air transportation of their supplies. Supply missions were requested and carried out almost daily in the 9-23 September period. Requests were submitted by the armies to their attached tactical air support command, which forwarded them on. In reality, the air movement of supplies for the ground

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forces was a mission of the operational Luftwaffe, so that in the south it was a responsibility of the Fourth Air Fleet. Nonetheless, the Fourteenth Army on 17 September requested assignment of a special air transportation group. Owing to the strained air transport situation in the entire theater at the time, this request could not be considered.

Since it was practically impossible to carry out large-scale air transportation missions in support of the ground forces, it seemed fully justifiable and desirable at least to carry out small movements. In the zone of the Fourth Air Fleet small supply movements of this nature were carried out in an exemplary manner by the reconnaissance units as part of their normal air tactical missions.

4. Air Reconnaissance Activities. From available reconnaissance reports and reconnaissance mission assignments it is obvious that the activities of the reconnaissance squadrons of the operational Luftwaffe were properly integrated with those of the reconnaissance units under Tactical Air Support Command 14, and that cooperation was smooth. Reconnaissance results were also exchanged punctually between the commands involved. In contrast, it appears definitely established that reconnaissance reports as a rule reached the higher level air commands far too late. Repeatedly higher

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headquarters found it necessary to draw attention to the possibility of radio reporting. Here it appears that the weaknesses of the too hasty training given to combat aircraft crews produced undesirable results. On the other hand, the crews of reconnaissance aircraft on their own initiative repeatedly participated in ground action, producing good results with bombs and weapons fire.

CHAPTER 12

AIR CONTRIBUTION TO THE GERMAN SUCCESS IN POLAND

Basic Concepts

The concept of operational air warfare as understood in 1939 was consonant in every respect with the German theories of air warfare valid at the time.⁸² Nevertheless, the very first actual combat mission flown in the campaign revealed the necessity for certain modifications. In the small area involved, which could not even be compared with continental concepts, and against an opponent inferior in every respect, no possibilities existed for operational or strategic warfare.

It is an established fact, however, that all operations of the Luftwaffe in the Polish campaign served to support Army operations. This included the indirect support missions, even those directed periodically against rail targets at extreme ranges along the eastern borders of Poland. None of these were strategic missions but tactical support missions for the Army. Examining and appraising air operations in the Polish campaign in retrospect, one therefore would apply standards differing entirely from those applied at the time

82. See Introduction to Part I.

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by the responsible persons in the Luftwaffe High Command.

It is an indisputable fact that through the continuous effective support given to the German armies, the Luftwaffe made a decisively important contribution toward the speedy defeat of Poland and its elimination as an active opponent. The German Army undoubtedly would have achieved this end alone, but it is hard to say how long it would have taken.

During the long time which this undoubtedly ^{WO [REDACTED]} have taken, all German forces committed in Poland would not have been available for employment elsewhere. The first result might have been a considerably slower advance in the west, but it is beside the point to consider these problems post factum.

Credit is due to the Luftwaffe that the long since famous "Campaign of Eighteen Days" so speedily achieved the desired objective of completely eliminating Poland. In the conflict which was just beginning to assume global proportions this removed the threat to Germany's rear and the Supreme Command was able soon to concentrate the entire striking power of Germany's ground and air forces in the west. Conversely, if large German forces of all types had remained tied up in the east with the attendant unavoidable losses in personnel and materiel, this might have influenced the Western Powers to conduct more active warfare at the turn of

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the year, and this might have changed the entire pattern of events in the first year of World War II to the disadvantage of the German armed forces.

The factor which made all these highly important successes possible was the surprisingly quick achievement of German air supremacy in Poland. Germany's opponents, employing a plurality of the German strength in materiel, only succeeded in establishing a similar superiority or supremacy shortly before the end of the war and only then with extreme difficulty and after causing widespread destruction in the German Zone of Interior and after the German forces in five years of gigantic battle had achieved innumerable famous victories.

COMPARISON OF GERMAN AND POLISH AIR FORCES ⁸³

Approximately two-thirds of the entire forces of the Luftwaffe were committed in the Polish campaign, making a total of 1 930 aircraft, including 900 bombers.

Opposed to these forces, the Polish command had at the outbreak of hostilities 315 fighters, 130 bombers, and 295 reconnaissance planes, making a total of approximately 740, plus 56 aircraft constructed specifically for naval support operations.

83. Compare presentation in Part 1, Chapters 2 and 3.

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According to another source which has become available⁸⁴ more recently and appears to be more accurate, the Polish command had considerably larger air forces available, as follows: 167 bombers, 275 fighters, and 365 reconnaissance planes, making a total of approximately 800 first line aircraft, plus 80 aircraft suitable only for naval purposes.

In any case, the Luftwaffe had a clear numerical superiority from the outset. In respect to command, tactics, technological properties, and personnel there can also hardly be any doubt as to the German superiority from the very beginning. However, this does not detract from the imperishable fame the Luftwaffe merited through the courageous combat action of its units in the war against Poland.

The reasons for the completely passive behavior and actual failure of the Polish air forces have been treated previously from the viewpoint of organization and command control.⁸⁵ For an historical evaluation the only really important fact is that from the third day of battle on the Polish air opponent was non-existent, no Polish air forces existed which could have interfered even only slightly in ground operations.

84. Talk by then Chief of Staff, First Air Fleet (Generalmajor W. Speidel), see Introduction, Part 1.

85. Part 2, Chapter 3, pp. 10 ff.

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reconnaissance units. The activities of the reconnaissance forces as instruments of the command deserve special mention at this point. In particular the strategic air forces searched out the entire area of Poland systematically day by day. As far as the borders of Soviet Russia they kept everything under observation which might have been of importance for the command in evaluating the situation, or which might have become important later on. Particularly in two phases of the operations strategic reconnaissance rendered decisively important services, (1) During the systematic observation of the Vistula River area, which at an early stage revealed the Polish intentions of crossing the river on a wide frontage and thus made possible the initial steps leading to the battle of annihilation west of the river; and (2) during the phase of reconnaissance observation over the far Polish rear, which made possible the timely dispatch of bomber forces against any Polish forces in process of concentration.

Instead of words it seems wiser to let figures speak for the true performances of the Luftwaffe in the Polish campaign. For this purpose such figures compiled in the form of statistical tables are submitted in five special appendixes.

87. # 66: Schematische Darstellung der Angriffe der Luftflotte 1 und 4, nach Zielgruppen geordnet; # 67: Zusammenstellung der operativen Angriffe der Luftwaffe im Polenfeldzug; # 68: Zusammenstellung der Einsätze der Luftflotte 4 am

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Footnote 87--cont.

18. September; # 69: Uebersicht ueber die Einsatze des
Kampfgeschwaders 55 zwischen dem 3. und 20. September;
70: Verluste der operativen Luftwaaffe im Polenfeldzug.

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all further developments in the air situation in Poland resulted from this circumstance. For the Luftwaffe, this circumstance also had the result that all German air missions from the third day of battle on could be flown under conditions equivalent with those of peacetimes. If the Polish command had had an air force even only moderately capable of action but well commanded, and even if that force had been capable only of pinprick tactics, the German bomber forces would not have been able for weeks on end to take off from their overcrowded bases in Silesia and Eastern Prussia and return to land and refuel and remunition after completing their missions without fear of interference. As it was, the German units were able to execute their missions almost completely free of the risks created by any war. If the Polish air forces had displayed only a minimum of activity, they could have compelled the Germans to disperse their ground service organization to a decisively important extent with all the attendant difficulties for the operating air forces.

Any Polish air attacks against troops would have interfered seriously with the operations of the German armies, since the German infantry were still extremely sensitive to air attack, as evidenced by the few examples treated in the

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preceding chapter.

Once the Polish command was practically paralyzed by the incessant air attacks against its control centers and as a result of the systematic destruction of signal communications, including the master radio network, operational air warfare as such was at an end. The air missions which so seriously disrupted the Polish strategic concentration of forces can also be considered as operational or strategic operations. All air activities which then followed were exclusively tactical missions. The selection and sequence of targets, some of them close behind the front and some in the far Polish rear, were determined solely by the operations of the German armies.

In the course of these developments the influence and importance of the medium levels of command--air fleet, air division, and equivalent headquarters--increased steadily. It was only through extreme flexibility that they were able to cope with the innumerable demands which threatened to deluge them. The exceedingly close cooperation between the intermediate levels of Army and Luftwaffe command made possible the extremely close contact which led to success, for both partners. These profitable joint efforts were made possible only through the excellent performances of the

86. Chapter 2.